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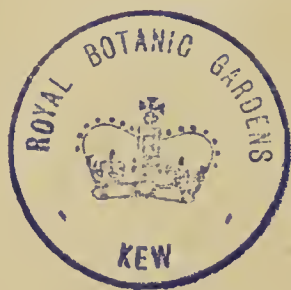
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INDEX.



- Acacia Baileyana, 81
 Acalypha hispida, 125
 Achimenes, tubers blackened, 463
 Adiantum Capillus-Veneris, var. cornubiense, 518
 Advancement of gardening, the, 248
 Agricultural co-operation, 252; teaching, 494
 Ailanthus, seedling, bearing flowers, 259
 Akebia quinata, 456
 Alaska, physical changes in, 114
 Aldrovandea and the Bladderwort, 383
 Alexandra Park, London, 316
 Allamanda, gnarled on, 212
 Alliums, in the grass, 12
 Almonds, flowering, 187
 Alonsoas, 140
 Alpine plant, an excellent, 363
 Amaryllids, germination of the seeds of, 212
 Amaryllis Belladonna, 81 (see Hippeastrum), 92
 American—Chrysanthemums, 39; export Apple trade, 184
 Anemone Pulsatilla, 540
 Angraecum — sesquipedale, 337, 357; sesquipedale not expanding, 23
 Annuals, hardy, 167
 Anthurium Scherzerianum, 498
 Ants in stove and conservatory, 308
 Aphis, eradicating woolly, 271
 Apple—and Pears, prospects in Somerset, 452; blossom protectors, 167; graft, insect injurious to, 542; Lord Grosvenor, 41; Mannington's Pearmain, 359; scab fungus, 447; Stirling Castle, 141; trade, American export, 184; tree, grafting, 156; tree shoot, small circular spots on, 92; trees at Uffculme, 104; bearing of, 156; trees, bush, with the bark and young wood eaten by a pest, 70; trees, planting and training as diagonal cordons, 176; trees, wassailing the, 222
 Apples—Australian for California, 448; best late for planting, 463; early, for exposed situation, 122; espalier-trained, variety Lord Suffield, 104; grafting, 316; high priced, 183; in Midlothian, 279; late-keeping culinary, 88; more late, 512; more Victorian, 512; overcropping, 530; planting, 251; profitable, 532; protecting from frost, 139; varieties to plant, 83
 Appointments—E. Allen, 341; J. Balmforth, 29; J. Barnes, 384; Chas. Brennan, 144; J. Castle, 102; H. J. Chapman, 242; P. Clinch, 129; E. G. Creek, 184; T. W. Dollery, 274; F. Follwell, 144; Frank L. Folwell, 252; A. D. Hall, Esq., 427; Major Wm. Clive Hussey, 252; W. Manning, 448; Geo. Maxey, 29; James McVie, 144; John Michie, 129; W. H. Miles, 29; H. Patterson, 144; Robt. Philips, 407; Joseph Sangster, 144; A. Shadbolt, 252; J. F. Simpson, 366; E. D. Smith, 184; F. Snell, 102; W. Wainwright, 242; James Wardhaugh, 144; F. Whicker, 407
 Apricot, the, and its culture, 50
 Apricots, old specimen trees of, 50
 Aquatics, notes on, 59
 Aralia Sieboldi, leggy plant of, 245
 Arauja sericifera (Physianthus albens), seed vessels of, 259
 Arbor Day, Bird and, 310
 Arboricultural Society, English, 341
 Arum cornu, 89, 126
 Arundinarias, 295
 Ash tree infested with wood-leopard moth, 524
 Asparagus — banking up, 115; beds, manure for, 396; beds, salting, 245; beds, topping-up, 263; culture, points about, 256; from seeds, 140
 Asters, annual, from seed, 140
 Asystasia bella, 408
 Araucaria — excelsa, too large, 546; white-tipped, 396
 Aucubas—berried, 463; planting male and female to secure berrying, 156
 Auricula — concerning the, 477; the awakening of the, 250; Alpine, 360; and Polyanthus, 163; florists' type of a, 512
 Auriculas—grey-edged and other, 378
 Australia, fruit to, 184
 Australian coffee cultivation, 332
 Bachelor of Science degree, 396
 Bacteriosis in Hyacinths, 236
 Badminton, 488
 Bamboos, hardy, 295; store water, 16
 Bambusa, 236
 Banana disease, 6
 Barr, Mr. Peter, 345
 Barrs, of Long Ditton, 345; plant catalogue, 161
 Battle of flowers in carriages, 492
 Bauhinia acuminata, 342
 Beale, the will of the late Mr. Ed. Jno., 319
 Beans—profitable runner, 46; French climbing for forcing, 455; notes on varieties of, 63
 Bedding arrangements, ideas on, 428; design, flowers for a, 224; plants in stony soil, 463
 Bed for a lawn, raised, 461
 Bedford weather and crops, 165
 Beech diseased, 497
 Bees—(The Bee-keeper), foreign queens, 461; historical notes on, 416; seasonable hints, 393, 500; rearing queens, 214; spreading brood, 522; spring examination, 307; swarming, 545; wood attacked by, 6
 Beetle, the Colorado, 551
 Begonias—evolution of tuberous, 456; Gloire de Lorraine and its sports, 163; x Julius, 56; seedling tuberous not thriving, 263
 Bentley's mildew specific, 427
 Biarum eximium, 143
 Bird and Arbor Day, 340
 Birds—and bird nests, curiosities, 512; and their old nesting places, 264; of the forest, 99
 Birthday episode, a, 143
 Blackberry, white, "Iceberg," 55
 Blackbirds and thrushes, incubation of, 535
 Black Currant bud mite, 243
 Blairgowrie and Rattray Fruit Growers' Association, 77
 Blood-root, the snow white, 434
 Blossom, the season of, 443
 Bluebell Wood, Glasgow, 242
 Book notices (references also under "Literature")—Agricultural Almanack, 1902, Vinton's, 10; Apple, the Book of the, 340; Botany for Beginners, Practical, 425; Clouds and Weather Signs, 535; Coccidæ, Monograph of the British, 97; Farmers' Year Book for 1902, Suttons', 178; Fruit Growing, Profitable, 7; Game-keepers' Annual, the, 196; Gardeners' Assistant, Thompson's, 364; Garden in England, the Formal, 98; Gardening, Clay's Successful, 175; Gardening for Beginners, 535; Garden, Notes for the Colonies and Abroad, 195; Greenhouse Management, Pictorial, 425; Horticultural Directory, the, 29; Horticulture, American, Cyclopædia of, 384, 424; Injurious and Useful Insects, 535; Kerner's Natural History of Plants, 463, 558; Kew Guild, Journal of the, 7; Orchids, The Woodlands, 10; Practical Pictorial Vegetable Growing, 535; Rosarians' Year Book, 29, 64; Rose, Book of the, 381, 424; Royal Horticultural Society, Journal of the, 383, 425; Suburban Garden, the, 30; Vegetables and Flowers, Culture of, 30; Hand List of Herbaceous Plants, 558
 Books wanted, 463, 573
 Border estate changes hands, 291; estate, sale of a, 184
 Borders, narrow and sunny, the value of, 382
 Botany—a nursery school of, 193; book for a class, 441; in the garden, 188, 248, 344, 395, 486, 522
 Bothy, 180, 201, 255, 256, 311, 324, 338; a suggestion, 363; plan for a, 388, 433, 454, 512
 Bothies—in variety, 273; moral nuisances, 433, 454, 513, 532
 Bowling green, cost of looking after a, 156
 Bracken, the common, 12
 Brighton, doings at, 100
 British Columbia, 526
 British dye plants, 5
 British gardening, future progress of, 34
 Broccoli—growing in Cornwall, 429; June, 503; notes on, 63
 Brotherston, Mr. R. P., 232
 Brown and London, 52
 Brunsvigia grandiflora, 33
 Brussels Sprouts decayed in the centre, 71
 Bulb farm near Edinburgh, a, 407
 Bulbs—cheap, 112; failure with, 92; do they rest? 532; in grass, 2; taxing Dutch, 55, 83; three on one stem, 6
 Business end of horticulture, the, 3.3
 Butterflies—a unique collection of, 252; some flower-like, 429
 Cabbages—applying superphosphate of lime for land to be cropped with, 176; clubbing in, 6; notes on, 82
 Cacti, book on, 156
 Caladiums, 56; a dozen choice, 386; Beckenham gardeners, and, 211
 Calanthe Veitchi variety, 161
 California, 274
 Camassias, the, 119
 Camellias—and Azaleas out of doors, 308; buds dropping, 71; leaves spotted, 308
 Campanula pyramidalis, 348
 Camp Hill, Woolton, 52
 Canada, immigration to, 468
 Canadian fruit interest, 145; tinned fruits, 7
 Cancer of Maréchal Niel Rose, 419
 Canna David Harum, 35
 Carnation—Mrs. Hemsley, 408
 Carnations—and Cinerarias and Cyclamens, 467; bacteriosis in, 212; cross-fertilising, 503; judging, 165; Malmaison to flower in February, 156; Marguerite from seed, 140; red, banded, 492; seedling as winter-flowering plants, 19; tree, 204
 Carpet bed, plan of a, 70
 Carrots, young, 254
 Cassell's Dictionary of Gardening, 11
 Catalogue compiler, the, 314
 Cattleya x Maroni, 101; flower, section of a, 22; labiate, pseudo-bulbs decayed, 245; peloria on, 325
 Cauliflowers, early, 79; notes on, 52
 Celery, 381; points about, 454, 533
 Cellulose, the use of, 42
 Celsa cretica, 434
 Centenary of the Royal Horticultural Society, 50
 Cephalotaxus fruiting, 389
 Certificated plants, 11, 202, 270, 322, 360, 517
 Chaucer's garden, 159
 Chemical manures, the value of, 50
 Cherry—house, 54, 144, 202, 292, 434; trees gummed, 503
 Cherries, Morello, 38
 Chiswick, proposed trials at in 1902—03, 128
 Chrysanthemists and Rosarians, 18
 Chrysanthemum — Aberdeen Chrysanthemum Society, 207; analysis, 95; (names of electors, 97); and Cornflower rust, 126; audit, the, 125, 164, 183, 210; Australia, 207; evolution of the, 357; Godfrey's Winter Queen, 84; spots on leaves, 134; Lily Mountford, 210, 255; Madame Herreweghe, 84; Mrs. Ridgway, 183; Mrs. T. W. Pockett, 84; Nellie Pockett, 142; New Year's Gift, 121; Nivens, 60; rust, is it dying out? 207, 243, 297, 388; schedules, 310; society, a new, 7; society of America, first exhibition of the, 407; as a cottager's plant, 330; variety at Chrysanthemum shows, 60; W. R. Church, 84
 Chrysanthemums—a collection of in south-west London, 60; after flowering, 22; American, 39; American v. English, 167; Australian varieties, 207; comments on Japanese varieties, 96; fifty best Japanese, 96; early flowering varieties, 428, 509; English growers, 510; English raised seedlings, 164; Godfrey's, 344; in England and Paris, 503; in vases, 34; Japanese varieties, 509; late flowering, 18, 39, 60; more late, 139; new, 183; new incurved, 185; notes on, 344; notes on new Japanese varieties, 120, 142; notes on the incurved section, 96; outdoor, 358; Pockett's visit to Paris, 503, to Liverpool and Edinburgh, 558; raisers and distributors of varieties, 1, English—2, Australian—3, French, Belgian, American, 164; seasonable notes, 142—thirty-six best incurved, 96
 Cinerarias from seed, 140
 Claytonia siberica, transverse section of the stem of, 522
 Clematis, the, its culture and uses, 263, 320
 Cleveland and its gardens, 525
 Clanthus puniceus albus, 16
 Climbing plants, 330
 Clivias, cultural notes on, 92
 Clouds, and weather signs, 535; cumulus, 191

- Clubbing and galling, 377; in Cabbage, 6
- Cockroaches and crickets, destroying, 92
- Code, an horticultural, 538
- Codiaeums at Oldfield, 348
- Cologyne Sanderiana, 75
- Cold storage in country houses, 274
- Coleus from seed, 140
- Colonial exhibition in the Royal Exchange, 383
- Colorado beetle, the, 551
- Comfort, Charles, 282
- Commons and Footpaths Preservation Society, 547
- Conifer, fast growing, 47
- Cordylines and Dracenas, 56
- Cornish clemency, 319
- Cornwall—Daffodil and Spring Show, 242; fruit growing, enterprise in, 54
- Coronation—Day, fête and floral gala, Edinburgh, 468; flower, the, 187; trees and spaces, 222; trees, Dundee, 468; trees, hunting for, 514; trees, planting, 301, 495
- Correspondence, 22, 46, 70, 92, 134, 156, 176, 196, 216, 245, 263, 287, 303, 330, 352, 396, 419, 441, 463, 482, 524, 546, 563
- "Country, The," 526
- County Council gardening in the Isle of Wight, 168
- Cowan, death of Mr. Lindley, 406
- Cox, presentation to Mr. and Mrs. H. G., 203
- Creeper clip, a, 481
- Crinum, bulbiform seed of, 126; germination of the seed of, and other Amaryllids, 212
- Crocus marathonicus, 140
- Crocuses—and Shakespeare, 231, 363; at Edge Hall, 276; in the grass, 12; in the parks, 344
- Crops—of 1901, 184; rotation of, 57, 99
- Crossing among plants, natural, 139
- Cucumbers—house ventilating, 330; plants in bearing, 185; in houses, 233; memoranda notes, 59; raising in frames, 180
- "Culture of Vegetables and Flowers," 30
- Cumberlow, South Norwood, 431
- Cutbush and Sons, Highgate, 32, 167
- Cyclamens—65; diseased, 89; Persian, peculiarities of, 342; Primulas and Cinerarias at Wordsley, 188; scented Persian, 163, 183; synanthry in flowers of, 212
- Cyclopædia of American Horticulture, 384
- Cypripedium—an abnormal, 403; × Edward Rothwell, 249; × Emperor of India, 423; × Mrs. W. Mostyn, 101; × Purum, 357; Spicerianum, 26; × Venus, Oakwood variety, 123; flowers of, 156
- Cyrtopodium palmifrons, 249
- Daffodils—at Rood Ashton, 386; Fuchsias and Gloxinias, 467; in the grass, 12
- Dahlia—analyses, 399, 433; specimen bush of a show, 404; union, the, 384; what is a Cactus? 434
- Dahlias—Cactus, 211, 401, 463; new Cactus, 403; Fancy, 409; Mr. Mawley and his, 406; planting out, 518; pompon, 409; Show, 499; single, 402
- Daisies, 534
- Daphne indica rubra, 81
- Darwin, life of, 144
- Dean, R.—testimonial, 55, 102, 128; list of persons at presentation ceremony, 144; presentation, 157
- Decorations, dinner-table, 31, 74
- Dendrobium—Apollo grandiflorum, 201; densiflorum, 92; Lowi, 4; Wardianum, 92
- Design, flowers for, 264
- Deutzia Lemoinei, 16
- Devon Gardeners' annual outing, 418
- Devonshire, backward, 509
- Digging and trenching, 122
- Disa × Luna, 485
- Disease, Hyacinths, 92
- Diseases, plant, losses from, 427
- Domain, young gardeners'—hints for the coming R.H.S. exam., 350; hints for young heads, 194, 500; Impatiens Sultani, 350; Lantana Drap d'Or, 328; Melons, cordons, 500; Tomatoes, outdoor, as bush plants, 329; trees, a few ornamental, 329
- Downes, death of Mr. John, 319
- Dracenas and Cordylines, 56
- Draining garden, 309
- Droitwich experimental garden, 184
- Drosophyllum, 446
- Dudley Flower Show, 496
- Dye plants, British, 5
- Earth's many voices, 236
- Echos from Hamilton, N.B., 304
- Edinburgh Agricultural College, 318; Coronation fête and floral gala, 468; city gardens, 15; Gardeners' Assembly, 87; gardens, beautifying, 451; horticultural societies, 128; notes, 514; nursery, an, 457
- Edwards, Mr. S. H., 233, 255, 275
- Elms, venerable, felled, 274
- Entomology, 182, 271
- Epergne, an improved, 154
- Epidendrum Lindleyanum, 52
- Epiphyllum treatment, 481
- Epsom salts as manure, 22
- Eranthis, in the grass, 12
- Ericas gracilis, 245; hycmalis, 245; in cold pit, 22
- Ether in forcing plants, 315
- Evaporating fruit and vegetables, 69
- Exhibitors, some points for, 424
- Exhibits, naming, 433
- Fallacies, 99
- Farm—Agricultural Organisation Society, 135; American agricultural notions, 115; American trusts and home protection, 376; Australian coffee cultivation, 332; butter and water, 158; cattle breeding and rearing, 504; an import tax on Wheat, 158; co-operation in Craven, 177; Corn duty and middlemen, 419; excessive railway rates, 178; failure in growing Turnips, 331; farmers emigrating, 318; feeding stuffs, manufacturers of, 216; gentlemen farmers, 397; how the German labourer fares, 94; 1902: its agricultural prospects, 23; our transactions with other lands, 309; permanent pastures, 464; Potatoes as food for cattle, 116; Pot-pourri of facts and fancies, 563; preparation for the Barley crop, 62; Rhodesia and its Blue Book, 217; Sale of Butter Regulations, 420; some poultry notes, 525; South Africa, the future of, 198; Sugar Beet cultivation at Newnham Paddock, 24; the lambing season, 197; the purchase of manures, 246; the quarterlies, 353; the wooltrade, 238; Turnips: their enemies, 548; vermin and other pests, 265; Victoria, Australia, 441; working days, 47; work on the home farm, 24, 47, 62, 94, 116, 136, 158, 178, 198, 218, 246, 266, 283, 332, 354, 370, 397, 420, 442, 464, 482, 504, 526, 548, 564
- Fasciation in Valeriana arizonica, 126
- Father of the gardening press, the, 88
- Feathered friends, 322
- February day in the garden, a, 179
- Fen districts, flowers from the, record consignments, 384
- Fern—balls, Japanese, 434; Japanese, scarce, 7; Marsh Buckler, 438
- Ferns for the greenhouse, 290; greenhouse, 221; growing within a bottle, 46; notes on, 56; the world's, 3; Tree, 3; unsatisfactory, 92; woodland, 292
- Fertiliser, applying to Vine border, 352
- Figs—trees, raising young, 278; earliest forced, 348; forced planted out, 348; forced pot, 278; succession houses of, 348; under glass, 9, 120, 192, 300, 540
- Flies for identification (Empis tessellata), 524
- Flora of Hampstead, 103
- Florist—a distinguished, 171; starting as a, 225
- Florists and floriculture over fifty years, 467, 518
- Flower—ball, a grand, 54; beds in the parks, 340; boxes gratis, 492; grower, the cut, 314; show reforms, 334, 410; shows, 301
- Flowers—cut, to make lasting, 434; for buttonholes, 463; for design, 264; from the parks, 251; London, battle of, in carriages, 492; notes on hardy, 540; origin of, 274; hardy spring, 276; hardy winter, 226; 100 tons of, 292; late in Scilly, 8; to preserve, 434; wild, January, 147; February, 207; wild, of old English gardens, 31, 271
- Forbes, honouring, Mr., 54
- Forcing Roses, 122
- Foresight, 199
- Foresters, Scottish, to visit Sweden, 406
- Forestry inquiry, British, 406, 426; round the Wells, 539; the encouragement of, 128
- Forests, Great Britain's, 214; His Majesty's woods and, 54
- Forfar gardeners, 55
- "Formal garden in England, the," 98
- Forty years a reader, 233
- Forwarding Tulips, Daffodils, and Irises, 121
- Fossil plants, 35
- Fowls' dung, 245
- Foxgloves and Mulleins, 408
- Freesias from Bittern, 211
- Frigi Domo, 88
- Fritillarias—askabadensis, 294, 386; dwarf, 79; in grass, 9; some chat about the, 315; tunasia, 540
- Frost, hoar, 15; 10°, Feb., on the 14th of May, 482; warning against, 372
- Fruit and vegetables, evaporating, 69; and vegetables in small gardens, 226; in California, 254; culture, books on, 264; culture in Worcestershire, 15; effects of ripening on the trees, 466; feeding wall trees, 510; gathering of, 510; growers' association, proposed federated, 102; growers, English, and foreign competition, 28; growing, old book on, 245; growing enterprise in Cornwall, 54; "hardy," grown under glass, 18; Growers' Federation, National, 468; growth, as distinguished from ripening, 466; in France, 363; in Victoria, 402; nature of mellowing and ripening, 466; on, 465, 510, 541; production, on, 290, 338, 359, 454, 496; (see also Fruit Supply); resources, California's, 184; steamers, 367; supply of these islands, 380, 404, 421, 494, 508 (see also under "Fruit Production"); supplies, our, 226; to Australia, 184; trade, Hull, and railway companies, 468; trees, planting, distances apart, 55; value of chemical manures for, 80; forcing, 21, 45, 91, 113, 133, 176, 195, 215, 244, 303, 329, 341, 373, 395, 417, 439, 461, 523, 545; hardy, 45, 133, 215, 262, 307, 351, 395, 439, 481, 523, 562
- Fruits and flowers of Jamaica, 273
- Fruiterers' Company, gold medal of the, 102; the Worshipful Company of, 318
- Fuchsias, decorative, 516
- Fumigating for mealy bugs, 341
- Fumigation methods, 323
- Fusarium Solani, 542
- Gadding and gathering, 14, 32, 85, 107, 296, 316, 344, 430, 456, 486, 530
- Galanthus Imperati var. Atkinsoni, 187
- Garden—design, 36; a formal front, 193; gleanings, 16, 35, 81, 141, 153, 187, 278, 348, 386, 403, 434, 534; infested with wireworms, 441; of England, the, 388; plan, who can sketch a, 166
- Gardens, some typical, the Manor Farm, 299; the Manor House, 33; the Rectory, 168
- Gardener—a fortunate, 255; an old-time, 50
- Gardeners—and the Coronation, 275; and their studies, 324, 363; curriculum, the, 210; education, 264, 454, 468, 495, 513, 533, 557; Ipswich, 29; "Labyrinth, the," 517; "lodges," 30; meetings (see Societies); qualifications, a, 366, 411; Royal Benevolent Institution (leader), 25; annual dinner, 490; self-education for young, 302; wages, 410
- Gardening—charities, 62; landscape, 52, 103; old-time, 49, 159; (fifteenth century), 346, 449, 517; scholarship, 128; spring, 250 years ago, 267; the future of British, 34
- Garven, death of Mr. Alexander, 384
- Gazania splendens, 263
- German school gardens, 367
- Geum montanum, 540
- Ghent International Horticultural Exhibition, 513
- Gilchrist, Mr. Douglas A., 366
- Gillingham, Kent, new public recreation ground at, 144
- Glasgow Botanic Gardens, 166
- Glass ranges, construction of, 170
- Gloxinia flower with excrescences, 438
- Gnanon Allamanda, 212; on Pavia sp, 212
- Godfrey, Mr. and his American confrères, 8
- Gooseberry—bushes dying off, 438
- Gooseberries, early, 406; in America, 8
- Gossamer webs, 244
- Gourds, an archway of, 256
- Grafted Hollies, 35
- Grammatocarpus volubilis, 273
- Grammatophyllum speciosum, 4, 141
- Grange, the, Bishops Stortford, 360
- Grape—Cooper's Black, 245; wine, to make, 16
- Grapes—early Muscat, 187; for July and August, 163; late, 35, 163; late houses of Black Hamburgh, 163; remarks on setting, 312; seedless, 6; the price of, 39
- Growing for exhibition, 357, 447
- Guano, Peruvian, 274
- Gunnorsbury House, Acton, 250
- Hale Farm Nurseries, auction sale at, 384
- Halesia tetraptera, 141
- Hallingbury Place, Bishops Stortford, 430
- Hall, the Horticultural, 160, 200; committee's report on the site of, 240, 283
- Hamilton, echoes from, 367, 514
- Hampstead, flora of, 103
- Hampton Court—foundation of, 440; grounds, 426
- Hardenbergia Comptoniana, 252
- Hardy flower notes, 146, 253, 347
- "Hardy" fruit, grown under glass, 18
- Harmonising colours, 312
- Hastings, new Horticultural Society at, 384
- Hazel buds affected with mites, 259
- Hazels, the Witch, 180
- Heating with hot water, 309
- Hedge twigs infested, 524
- Heliotropes from seed, 186
- Hellebores—at Edge Hall, 276; lesser-known, 205; the, 205
- Heliborus—colechicus magnificus, 139; niger, 139
- Henry VIII. and Leland, 449
- Henslow, Rev. Prof. George, 333

- Henckera sanguinea splendens*, 434
 Highgate Chrysanthemum growers, 129
 Hints for young heads, 194, 500
Hippeastrums—at Chelsea, 345; new species of, 212
 Hoar frost, 15
 Holland House, 293
 Holly, fasciated, 212
 Hollies, English, in America, 16; grafted, 35
 Hollyhocks, 467; seedling, 269
 Horseradish growing, 124
 Horticultural Club, the (see Societies)
 "Horticultural Directory," the, 29; an appreciation, 139
 Horticultural Hall, the, 160, 200; committee's report on site, 240, 283
 Horticultural instructorship, 176
 Horticulture—commercial, 223, 529; jocular, 62, 98; lectures on, 55; in Sheffield, 291
 Horticulturists and the sale of poisons, 203
Hoya carnosa, 309
 Hull fruit merchants dissatisfied, 165
 Humus and soil moisture, 408
 Hungary, visit of agriculturists to, 407
 Hyacinths diseased, 92; and Tulips and Scillas after flowering, 309
 Hybrid, alleged, between Pea and dwarf Bean, 212
 Hybridisation, plant, 204
 Hydrocyanic acid gas for fumigating, 379; fumigating with, 374
Hypericum humifusum, 338, 363
- Ideals for the future, 88
 Illustrations of Temple Show groups, 493, 495, 496, 497
Imantophyllum, red spot on leaves of, 126
 Immigration to Canada, 468
Incarvillea Delavayi, 146
 Incubation of blackbirds and thrushes, 534
 Insects—*Bryobia praetiosa*, 330; caterpillar of swift moth, 71; destroying Vines (*Curculio picipes*), 308; lackey moth, the, 182; March moth, the, 214; muslin moth (*Avelia mendica*), 375; name of, 287; not pests in their natural home, 126; on Raspberry canes, 503; on Vines, 264; Thrips *adonidum*, 287; useful and injurious, 535
 Insectivorous plants, 445
Ipomoea hybrida marginata, culture of, 245
 Ipswich gardeners, 29; progress at, 128
 Ireland—echoes from, 152; notes from, 272, 422, 485
 Iris—Kämpferi, the Japanese Iris, 323; orientalis, 491; pumila, 81; tectorum, 18, 143; Warleyensis, 339; unguicularis, 89
 Irises—at Edge Hall, 276; early, 251; for dry bank, 92; in grass, 12
 Irish gardeners: an address, 334
 Irish Ivy, 276
 Isle of Wight, County Council gardening in the, 169
 Ivy, Irish, 276
- Jackdaws nesting, 167
 Jamaica and Tasmania, 318; fruits and flowers of, 278
 Jam, facts about, 28
 Japanese Fern balls, 434; scarce, 7
 Japanese dwarf trees, 494
 Jasmine, hardy, 187
 Jocular horticulture, 62, 98
 Jottings on Pines, 58, 106
 Journal—of the Kew Guild, 7; of the Royal Horticultural Society, 28; the uncut, 62, 411
 Judges, a corps of trained, 29
 Judges, officials, and friends at the Edgbaston Auricula Show, 488
 Judging Caruatiens, 165
 Jujube, 259
- Kelp for soils, 165
 Kendal, notes from, 367
 Kennedy (Marryattae) prostrata, 65
 Kennington Park, 316
 Kent and Brydon, Messrs., 68
 Kerner's Natural History of Plants, 463
 Kew—bulbous plants at, 367; gardeners' social evening, 129; greenhouse, 165; Guild, Journal of the, 7; Guild, the, 426; injured trees at, 366; Orchids at, 336; Victoria Regia at, 351
 Kidderminster gardeners, 7
 King Edward VII. as a tree planter, 221
 Kiosks for street flower sellers, 366
Kitaibelia Lindemuthi, 253
 Kitchen garden, 21, 69, 115, 195, 244, 287, 373, 418, 462; rotation in the, 57, 329, 501, 546
 Krelage, the late Mr. J. H., 8
 Kyrle Society, the, 318
 Kumquat, the, 278
- Labelling, 70
 Labels, zinc, 255
 Lackey Moth, the, 182
Laelia—anceps Amesiae, 269; anceps Simondsii, 294; and *Cattleya* roots turning black, 162; *Digbyano-purpurata* var. King Edward VII., 294; \times Latona, 379
Laelio-Cattleya \times Cholestiana, 249; \times Queen Alexandra, 181
 Laings of Forest Hill, 486
 Laird, Robert, 281
 Landscape gardening, 52, 103
Lapagerias, 176
 Larch trees as a "screen," 47
 Lathom Gardens, conservatory at, 511
Lastrea (*Nephrodium*) *thelypteris*, Marsh Buckler Fern, 438
 Lawn—the, 268; raised beds for a, 461
 Lawns, the subject of, 80
 Leaf curl in Peaches, 433
 Leaf mould, scalding, 70, 92
 Leek, Dobbies' International Prize, 17
 Legal notes—Moffat Trees Action, 184
 "Le Jardiou," 30
 Lemoine, honour to M. Victor, 29
 Letters from old friends, 225, 242
 Lettuces, notes on, 82
Leucorum vernum forming bulbs, 389
 Levelling, amount per cubic foot for, 375
 Library of park literature, 427
 Lilac, forcing white, 92, 196
Lilium—auratum and *L. speciosum*, treatment of, outdoors, 114; longiflorum eximium, 81; pardalinum, 347; speciosum, potting, 441
 Lily, a double, 407; disease, 498
 Lily of the Valley, crowns destroyed by caterpillars of the swift moth, 171
 Lilies—certificated, 11; at "The Cape," 30
 Liming ground for Potatoes, 352
 Lindley Library, 145
 Literature, 10, 97, 364, 424, 535 (see "Book Notices")
 Literature, library of park, 427
 Liverpool—and the Gardeners' Royal Benevolent Institution, 165; Botanic Garden, 535; grain, root, and flower show, 165; keeping pace, 511; weather, 468
 Lobelia, Mrs. Clibran, new bedding, 468
 Lobelias—certificated, 11; from seed, 140
 "Lodges," Gardeners', 30
 London—Dahlia Union, the, 384; gardens, 450
 Loney, Peter, 282
 Lopezia miniata, 348
 Loudon—and Birmingham Botanic Gardens, 275; and Brown, 52; a morning with, 225; list of his chief works, 240; the father of horticultural journalism, 225
 Loudon's self-instructor for young gardeners, 287
 Lucerne, 482
Luculia gratissima, 22
 Lunarias, certificated, 11
 Lupines, certificated, 11
 Lychnises, certificated, 11
- MacKenzie, Alex., 282
 MacKinnon, William, 281
 Magazine, another new, 341
 Magnolia, a magnificent, 386; stellata, 35; the, 202
 Magpies' nests, 243
 Malva and Marigolds (*Tagetes*), 202
 Manor House Gardens, Lee, 448
 Manure, doubling the value of, 376
 Maples, culture of Japanese, 547
 March moth, the, 214
 Market gardener, starting as a, 223; the business of a, 250, 270
 Market Gardeners' Act and gardens, 139
 Material for layering, 456
Mathiolas (Stock) certificated, 11
 Mawley, Mr., and his Dahlias, 406
 Mealy bugs and "scale insects," 97
Megacolinium leucorhachis, 249
 Melon disease, 542; leaves decayed, 497
 Melons—earliest plants, 302; early, 79; in houses, 141, 271; fruit ripening, 535; fruit swelling, 534; in pots and frames, 141; Musk, 27; notes on, 493; raising early, 10
 Melville, Mr. William, an appreciation, 18
 Memory, a pleasant, 226
 Mercury, proper name of the vegetable called, 419
 Messenger and Co., 417
 Mexico, 287
 Middlesex County Council School of Horticulture, 77
 Mimuli, 270
 Mint, green, 254
 Mistletoe, inserting seed, 46
 Moles, and mole trapping, 42
 Morello Cherries, 38
 Morrea irrorata, 249
 Mossy orchard, 309
 Moth (see also Insects)—the humming bird, 271; the hornet clearwing, 341; the Raspberry (*Lampronia rubiella*), 542
 Motor cars for farmers, 319
 "Mount," the, 50
 Mulberry tree, old, not fruiting, 114, 125
 Muscari, 270
 Mushroom—beds, 463; beds out of doors, 115
 Myosotidium and Myosotis, 202
 Myosotis alpestris stricta Pink Gem, 534
- Narcissus (see also Daffodils)—a new, 397; disease, 325; fly (*Merodon equestris*), 372; the (certificated vars.), 322
 Nasturtium (*Tropaeolum*), 323
 National Chrysanthemum Society, 139
 National Floricultural Society, 467
 Natural crossing among plants, 188
 Natural History, teaching, 341
 Nature—notes, 398, 419, 440, 462, 482; the balance of, 426, 562
 Nectarine, Cardinal, for early marketing, 216
 Nectarines—and Peaches outdoors, 124; and Peaches under glass, 58
 Nemesia, the, 323
 Nemophila, the, 323
 Nepenthes—446; Northiana, 128; the, 323
 Nerine, the, 323
 Nether Liberton Daffodil Nurseries, 408
 New Year's Address, 1
 New York Botanic Garden, 513
 Nicotiana, 360
 Nierembergia, 360
 Nightingale, Coleridge on the, 440
- Nomenclature, wrong, 243, 255
 "Nonex," 261
 Norhyrst, South Norwood, S.E., 430
 Notes and notices, 7, 29, 54, 77, 108, 123, 141, 165, 184, 203, 244, 251, 274, 291, 318, 340, 366, 383, 406, 426, 448, 468, 491, 513, 538
 Novelties, 123
 Nursery and Seed Trade Association, 203, 318
 Nursery school of botany, a, 193
 Nuts for human food, 81
 Nymphæas—air canals in leaf and in flower stalks of, 173; (certificated), 360
- Oak—galls, 546; trees not thriving, 245
 Obituary—Ed. John Beale, J.P., F.L.S., &c., 58; Wm. Bull, F.L.S., V.M.H., 491; Cowan, Mr. Lindley, 406; J. Crosfield, 14; T. Davis, 432; Andrew Dougal, 304; John Downes, 319; Charles H. Downie, 521; Charles Fisher, 304; Alex. Garvan, 384; Sir Henry Gilbert, 14; F. J. Grahame, 148; H. H. Hunnewell, 521; Sir Michael Inglis, 432; Leonard Kelway, 148; Thos. King, 394; G. G. Knott, 15; Selfe Leonard, 190; N. H. Pownall, 258; the late, 275; W. Salcombe, 368; Geo. Stevens, 304; G. St. Pierre Harris, 14; Dr. Chas. Stuart, 171; David Syme, 133; Henry Tate, 165; James Togg, 242; Mungo Temple, 368; Eugène Verdier, 368; G. F. Wilson, 303
 Observers' notes, 21, 46, 71, 93, 112, 133, 155, 171, 214, 244, 264, 304, 329, 352, 375
Ochna multiflora, 208
 Odontoglossum, diseased leaves of, 212
 Odontoglossum—X *Adrianæ* memoria *Victoriæ* Reginae, 357; O. *Adrianæ* Mrs. Robert Benson, 313; O. *Adrianæ* var. Sybil, 529; O. *crispum* var. *ardentissimum*, 507; O. *crispum*, var. Robert McVittie, 445; O., £200 for an, 201
Oenanthe crocata poisonous to cattle, 259
 Olearia, 517
 Oncidiums, cultural notes on, 4, 76, 123
 Onion culture, 124
 Onions, notes on, 82, 141, 254
 Ophiopogon, 517
 Orchard, mossy, 309; planting, 251; trees, planting, 83
 Orchids—at home, 101; at Kew, 336; culture of, 309; *Calanthe Veitchii* var., 162; *Cattleya labiata*, pseudo-bulbs decayed, 245; C. \times Maroni, 101; *Celogyne Sanderiana*, 74; *Cypripedium*, an abnormal, 403; C. \times Edmund Rothwell, 249; C. \times Emperor of India, 423; C. flowers, 156; C. \times Mrs. W. Mostyu, 101; C. \times Veus, Oakwood var., 123; *Cyrtopodium palmifrons*, 249; *Dendrobium densiflorum*, 92; D. Lowi, 4; D. *Wardianum*, 92; *Disa* \times Luna, 485; *Epidendrum Lindleyanum*, 52; *Grammatophyllum speciosum*, 4; *Laelia* 269; *L. anceps* Simondsii, 294; *L. and Cattleya* roots turning black, 162; *L. Digbyano-purpurata*, var. King Edward VII., 294; *L. x Latona*, 379; *Laelio-Cattleya* \times Cholestiana, 249; *L.-C. Queen Alexandra*, 181; *Megacolinium leucorhachis*, 249; *Odontoglossums* (see above); *Phaius simulans*, 294; *Phalanopsis Schilleriana*, 550; sale of, 379; seed, 22; spotted leaves of, 115; week's cultural notes, 4, 26, 52, 74, 101, 123, 161, 181, 201, 249, 269, 294, 313, 336, 357, 379, 403, 423, 445, 481, 507, 529, 550; *Zygopetalum Schröderianum*, 403
 Oruithogalums, in grass, 12
 Ornamental waterfowls, 222
 Orphan Fund, Royal Gardeners', change of offices, 55; (see under Societies)

Osmanthus, 517
 Ostrowskia, 517
 Ourisia, 517
 Outdoor Peaches and Nectarines, 124
 Overtime, 505
 Oxalis, 517
 Oxford County Council, 318
 Oxfordshire, Apricots in, 51

Peony—grub in roots of, 126; with the goat moth, 389
 Papalanthus sp., 259
 Palermo, 192
 Palm (Kentia) diseased, 438
 Palms, 56
 Pansy, the, 364
 Parks—and gardens, Royal, 252; flowers from the, 251; public, situation in, 233
 Past, the, and the future, 6
 Pasture, 263; eradicating Thistles from a, 503
 Paul, Mr. William, 341
 Pavia sp., gnaw on, 212
 Payne, Mr. Harman, French distinction for, 102
 Peach—blossoms, 389; Duke of York, 544; fruits cracked, 502; leaf curl, 348, 386, 410, 454, 512; trees casting their fruit, 308; trees, leaves of, shrivelled, 331
 Peaches—and Nectarines, 302; forced, 386; growing for exhibition, 446; in early houses, 493; on Plum stocks, 513; recently planted young trees, 494; under glass, 58
 Pear—blossom buds on leading shoots, 352; General Wauchope, 20; leaves blistered and fruits scabby, 547; leaves diseased, 498; tree, blight on Jargonelle, 503; Uvedale's St. Germain, 83; Winter Nelis, 91
 Pears—for south-west aspect, 22; at 8d. each, 33
 Peas—a larger supply wanted, 336; crossing among, 254; notes on, 63, 139; Ne Plus Ultra and Autocrat, 557
 Pelargonium—leaves, 126; leaves decayed, 89; pitcher on leaf of, 325
 Pelargoniums—forcing, 245; in the Transvaal, 173; three showy, 434; white patches on the leaves of, 331; Zonal, in pots, 23
 Peloria on Cattleya, 325
 Peruvian guano, 274
 Petunias, pot culture, 187
 Phaius simulans, 294
 Phenomena of the season, 214
 Phyllocacti, the, 339
 Phyllostachys, 296
 Pine-apple, fruiting period of, 278
 Pigeons, wood, in North Devon, 55
 Pines—fruiting, 202; in pots, starting, 163; jottings on, 58, 106, 278; potting, 202; starting suckers, 163; to fruit, 163
 Pinus pindica, 259
 Pitcher on leaf of Pelargonium, 325
 Plans for a bothy, 388
 Plant—breeding conference, 506; hybridisation, 204; life, eccentricities of, 276; names, some drolleries of, 234; notes, 186
 Plants—British dye, 5; certificated, 11, 202, 270, 322, 360, 517; fossil, 35; for room and table decoration, 56; hardy, on arches and rockeries, 383; insect-ivorous, 445; little-known, 530; natural crossing among, 188; of economic value, 380; the first, 356; which survive a Scottish winter, 557
 Planting—seaside, 203; the sand dunes, 366
 Plough Monday, 8, 30
 Plum—Rivers' Monarch, 12; trees suffering in Herefordshire, 514
 Plums and Pears for south-west aspect, 22
 Poisons, the sale of, 531
 Polyanthus, the gold-laced, 336
 Polyanthus—and Auriculas, 163; at Forde Abbey, Chard, 466
 Polypodium glaucum var. Mayi, 451
 Pomological notes, 202, 302, 493

Porter's coil stake, 417
 Potato—crop, the Cheshire, 54; planter, a patent, 292; planting in Waterville, 203; Syon House Prolific, 99; tuber disease (Fusarium Solani, Mart.), 497, 542
 Potatoes—forcing, 16; notes on, 63; planting, 185, 254; sprain in, 341; storing, 22; very early, 252
 Pot-pourri, on compounding, 507
 Pownall, the late Mr. N. H., 276
 Prickly Pear, as a pest, 129
 Primroses malformed, 438
 Primula—cortusoides amena grandiflora lilacina, 278; leaves curled and spotted, 135; marginata, 254; megaseefolia, 347; ohonica grandiflora, 245; sinensis, single and double, 515; sinensis, the Duchess, 441
 Primulas, Chinese stellate, 205
 "Profitable Fruit Growing," 7
 Pruning wall trees, 35
 Prunings, "Saynor's," 10, 38, 104
 Publications received, 20, 45, 69, 93, 196, 286, 330, 354, 373, 427, 463, 524, 562
 Pumpkins and Squashes at Orpington, 14
 Puzzles, horticultural, 100
 Pyrus japonica cardinalis, 81

Plants, Flowers, Fruits, and Vegetables Certificated by the Royal Horticultural Society.

Acacia cultriformis, 190
 Amaryllis Imperatrice de Bresil, 66
 Anemone St. Bridget (strain), 437
 Angraecum Maloneyi, 496
 Asparagus japonicus, 63
 Aspidistra lunata, 496
 Auricula Alexandra, 370; Firefly, 327; Mrs. Henwood, 327; Rosy Morn, 327
 Azalea rustica, fl.-pl. ramosa, 480
 Begonia alba grandiflora, 110; Exquisite, 520
 Carnation (Malmaison) Duchess of Westminster, 459; (border) Lady Hermione, 520
 Cattleya—Guttata Prinzi, var. Sanderæ, 285; intermedia aquini, 480; Mossie Arnoldi, Westfield variety, 437; M. Aurora, 480; M. Memoria Dr. Smee, 480; x Niobe, 370; x Pathenia vernalis, 235; Triane alba, var. Mrs. Edward Londheim, 66; Warneri, Little's variety, 520
 Cordyline (Dracena), Mayi, 370
 Corydalis thalictrifolia, 520
 Cucumber British King, 480
 Cymbidium Lowio-Mastersi, 148
 Cypripedium—x A. Dimmock, 190; Dowligeum, 190; x Edithæ, 370; x Emperor of India, 370; Felicity, 190; insigne Fowlerianum, 110; Godfroyæ leuochilum pulchellum, 480; Lawrencianum, 285; Lawrencianum Hackbridgensis, 459; x Leander, Cambridge Lodge var., 89; x Miss Fanny Wilson, 89; x Mrs. W. Mostyn, 89; ruhesens Ranjitsinji, 110; x Stevensi, 89; x Vonus, Oakwood variety, 110; x Vipani, Hesse variety, 370; x William Pitt, 285
 Dendrobium—Apollo alium, 241; californica rubra, 480; camalatum, 496; x Ethel, 437; Rolfe, var. roseum, 285; Wardianum Fowleri, 110
 Dimorphanthus mandshuricus foliis argenteus marginatus, 370
 Dlsa x Luna, 437
 Exacum Forbesi, 66
 Fagus sylvatica aurea marginata, 520
 Freesia aurea, 480
 Fritillaria askabadensis, 285
 Fuchsia triphylla hybrida, 50
 Gomesa (Rodríguezia) planifolia, 89
 Hamanthus imperialis, 110
 Heuchera brizoides var. gracillina, 520

PLANTS, &C., CERTIFICATED—contd.

Ilippeastrum—General Buller, 370; Mrs. Bilney, 370; Nysa, 327; Queen Alexandra, 370; Sir Christopher Wren, 285; Sylvaus, 327
 Ipsea speciosa, 148
 Iris—Barnumæ, 459; Buckarica, 327; germanica var. Sarpedon, 520; Sofarana magnifica, 480; Tauri, 66; Warleyensis, 285
 Lachenalia x W. E. Gumbleton, 241
 Lelia—anceps Chamberlainiana, 66; anceps Hallidayana, var. Crawshayana, 110; a. Hilleana Rosefieldensis, 69; Digbyano-purpurea, var. King Edward VII., 241; flavina, 327; x Helen, 480
 Lelio-Cattleya x Cappei, 110; L.-C. x Cholestiana, 190; L.-C. x Digbyana Schröderie, 235; L.-C. x Dora, 327; L.-C. x Hyena splendens, 480; L.-C. x Mabel, 520; L.-C. x Myra, var. Princess of Wales, 285; L.-C. x Orpheus, 67; L.-C. x purpurata Schilleriana, var. Whatleyæ, 241; L.-C. var. Queen Alexandra, 148; L.-C. x Rosalind, var. Prince of Wales, 285; L.-C. Zephyra alba, 480
 Lycaste Skinneri, var. Lady Gladys, 110
 Marguerite var. Coronation, 520
 Masdevallia x Circe, 327; M. Rushtoni superba, 480
 Maxillaria—fractiflexa, 437; præstans, 496
 Melon, President, 520
 Narcissus—Ada, 437; bicolor Elaine, 370; bicolor Queen Emma, 370; bicolor Queen Christina, 370; Betty Berkeley, 370; Cresset, 370; incomparabilis Incognita, 370; incomparabilis Moon Ray, 437; (Johnstoni) Cecil Rhodes, 437; Peter Barr, 327; Sir Francis Drake, 327; Warley Magna, 370; Watchfire, 437
 Nymphaea stellata Wm. Stone, 480
 Odontoglossum—Adrianæ, var. Cooksoniæ, 459; Adrianæ, var. Mrs. Robt. Benson, 286; Adrianæ, var. Paireanum, 370; Adrianæ, var. Sybil, 459; Alexandræ British Queen, 480; concinnum, 480; crispum ardentissimum, 480; crispum Calypso, 480; crispum Edward Rex, 480; crispum, var. Fairy-footsteps, 437; crispum Lady Jane, 480; crispum, var. Lady of the Lake, 459; crispum, var. Mabel Whately, 190; crispum, var. Marjorie, 459; crispum, var. Miss Lucien Linden, 285; crispum, var. Pittæ, 437; crispum, var. Robert McVittie, 370; crispum verficum, 480; Dulce, 480; Duvivierianum Burfordiense, 89; Halliocrispum Heatonense, 148; Halli, var. Queen Alexandra, 437; Harryanum cristata, var. Duchess of York, 437; Hystrix secundum nulli, 437; loochristiense, var. enfieldensis, 190; loochristiense, var. Lady Victoria Grenfell, 286; pardinum, 110; Pescatorei Charlesworthi, 480; x Queen Alexandra, 480; x Rolfe, Oakwood variety, 370; Ruckerianum, var. Pittanum, 286; triumphans latiseipalum, 437; varicosum Charlesworthi, 480; Wattianum, Hardy's variety, 89
 Oncidium—carthaginense, 496; luteum, 496
 Ornithidium Sophronitis, 89
 Pæony Queen Alexandra, 497
 Papaver orientale var. A. W. Chillery, 497
 Peach, Duke of York, 459
 Pear, Winter Nelis, 67
 Pelargonium, Colonel Baden-Powell, 437

PLANTS, &C., CERTIFICATED—contd.

Phaio-Calanthe x Ruby, 190
 Phaius x Phoebe superbus, 459; x Ruby, 459
 Phalenopsis Sanderiana Wigan's var., 497
 Phyllocactus Emita, 497
 Polystachya pubescens, 497
 Primula sinensis, The Duchess, 110; x Spring Beauty, 327; imperialis, 497
 Pteris Wimsetti multiceps, 370
 Rose x Dorothy Perkins, 459
 Saxifraga Guildford Seedling, 437
 Sophro-Lælia x Ieta Orpetiana, 286
 Thalictrum orientale, 497
 Tricopila—laxa, 497; rostrata, 497
 Tulip, Pride of Haarlem, 497
 Tulipa Gesneriana lutea pallida, 437; Nicheliana, 437
 Zygopetalum x Perronondi Cecil Rhodes, 327; rostratum, 497

Quarterly review, a, 219
 Quarterlies, the, 353
 Queen's Violets, the, 294

Railway rates, 338; excessive, 178
 Rainfall—of 1901 at Belvoir Castle, 30, 78; at Temple House Gardens, Berks, 30; at Wick, 139; taking measurements for, 352
 Ransomes, Sims, and Jefferies, 68
 Ranunculuses, 141
 Raspberry canes diseased, 498; insects on, 503; moth, 542
 Raspberries—Australian, 538; suckers from, 482
 Rats and Potatoes, 225
 Readers' Views, 18, 39, 62, 88, 98, 125, 139, 167, 183, 210, 243, 255, 275, 301, 324, 348, 363, 388, 410, 433, 454, 495, 512, 532
 Reading, 39
 Regent's Park Gardens, 296
 Reidia glaucescens, 358
 Reigate's Park, 426
 Reineckia carnea, 217
 Reminiscences, 40
 Rhododendron—Christmas Cheer, 141; fasciated, 6; Princess Royal, 186; Sappho, 452; varieties, 396
 Rhododendrons—a list of, 35; in Queen's Park, Glasgow, 406
 Rhubarb—352; wine, how to make, 482
 Richardia, 89; corns attacked with mites, 126; Elliottiana, 92
 Robertson, Mr. John, 129
 Robinia, root nodules on, 389
 Rockery, materials for, 396
 Rock garden and waterpool, 9
 Rollers for outside shades, 245
 Roof garden, a Liverpool, 456
 Root nodules on Robinia, 389
 Rosa Wichuriana, 381
 Rosariaus—and Chrysanthemists, 18; "Year Book," 29, 64
 Rosery, the, 206
 Roso—cogitations, 322; conference (R.H.S.), 552; diseased, 497; E. V. Hermanos, 535; garden, a, and a vicar's garden, 241; garden, plans for a, 213; grafting, 115; grub on, taken from a tunnel in a Rose-stem, 325; Liberty, 516; house, 352; new, Souvenir de Pierre Notting, 381; notes from Newton Mearns, N.B., 487; what kind is the true York and Lancaster? 503, 516
 Roses—budding outdoor in April, 433; by the way, 516; coronation, 270; dissemination of new, 322; for autumn blooms, 86, 106, 119; forcing, 122; garden, 206; hedgerows of, 381; Hybrid Tea, 128; in far Tasmania, 64; manure for, 535; mildew on, 450; more hybrid Wichuriana, 270; notes on, 450; octogenarian, 206; pruning, 450; pruning climbing, 263; pruning Hybrid Perpetual, 217; replanting standard, 217; Rambler, 220; seasonable hints on, 516

Rotation in the kitchen garden, 57
 Royal Horticultural Society's examination, 177, 196
 Royal Horticultural Society—(see under Societies); an historical sketch, 471; Chiswick shows, 473; Council's report of 1857, 474; experimental garden at Kensington, 472; financial troubles, 473; formation of the society, 471; importation of new plants, 472; Prince Consort and South Kensington, 474; publications of the society, 475; R.H.S. collectors, 472; Royal Charter granted, 472; the garden at Chiswick, 476; vicissitudes of the society, 473
 Runner Beans, 433
 "Rust," Chrysanthemum, is it dying out? 207, 243, 297, 338; and Cornflower, 126
 Rye-grass, Italian, 482

 Sale of dwarf trees, 291
 Sarracénias, 446
 Saunders, memorial to Sir Edwin, 162
 Saxifraga apiculata, 186; crassifolia, 82
 Scale pest, a new, 182
 Scientific Committee, R.H.S. (see R.H.S. under Societies)
 Schizanthus Wisetonensis, 503
 Schizocodon soldanelloides, 348
 Schizophyllum commune, 325
 School gardens, German, 367
 Scholarship, gardening, 252
 Scilly flower trade, record export, 252
 Scottish Horticultural Association, semi-jubilee year of the, 280, 407; horticulturists, 54, 242
 Screen and shelter belt, a, 278
 Seakale, Beddard's Improved, 183; Lilywhite, 44
 Seakale, cutting crowns of, 306
 Seasonable hints, 122
 Seed-grower, the, 314; list, the, 63, 82; harvesting at Orpington, 14; selling scheme, a pernicious, 318; sowing, the garden and greenhouse, 140; testing inquiry, 468
 Seeds—germination of those of Crinum and other Amaryllids, 202; required for a garden of one acre, 55
 Seedsman, starting as a, 223
 Self-educated gardeners, 324
 Semi-jubilee year of the Scottish Horticultural Association, 280, 407
 Sewage, deodorising, 352
 Shakespeare and Crocuses, 291, 363
 Sheffield, horticulture in, 291
 Shelters, wicker, 274
 Sherwood silver cup, 228
 Shop-keeper, the, 314
 Shows (see under Societies).
 Shrewsbury Show (note), 165
 Shrubs (see also Trees), moving large, 68; spring flowering, 337
 "Silver leaf," 389
 Situation in public parks, 263
 Sleepers, suspected, 41
 Slime fungus, 259
 Slugs, destroying, 309
 Smith's seed catalogue, 54
 Snail's in Cucumber house, 22
 Snowdrops in grass, 12
 Soil cultivation, 73; for Apricots, 51
 Solitaires in landscape gardening, 252
 Somersetshire, Apple and Pear prospects in, 452
 Somerville's promotion, Dr., 8
 Spade, the Cornish, 533
 Spider killing made easy, 208
 Spider runners and lurkers, 342
 Spitach and its substitutes, 162
 Sprain in Potatoes, 341
 Spraying for mildew, 7
 Spring gardening 250 years ago, 267
 Spring pruning, 182
 Squash, the Hubbard, 220
 Squashes at Orpington, 14
 Staging in houses, arranging, 156
 Staking trees, 122
 Starting in business, 223

Stephanotis, treatment of small plant of, 278
 Stipa viridula, injurious to cattle, 498
 Stocks—for Apricots, 51; Paradise and Doucin, 264
 Storage, cold, in country houses, 274
 Strawberry—proliferous, 325; St. Joseph, to flower late, 525
 Strawberries—assisting, 422; for keeping in hot weather, 245; in pots, 72, 163, 306
 Stuart & Mein, Messrs., incorporated with Messrs. Laing & Mather, 68
 Subtropical plants, 140
 Suburban garden, designing and planting a small, 422
 Sulphuric acid as an insecticide and weed killer, 441
 Sunday flower shows, 102
 Sundials and sundial mottoes, 527
 Sunflower culture as an industry, 354
 Sunflowers, the value of, 80
 Superphosphate of lime for Cabbage ground, 176
 Suttons—at Reading, 530; Primulas, 107
 Swanley Horticultural College, 252
 Sweden and its trees, 319
 Sweet Corn, cultivation of, 160
 Sweet Pea, a note on the, 456; properties of the, 145
 Sweet Peas, early outdoor, 133; in pots, 145
 Syon House, Brentford, 315
 Syringe, an undentable, 481

Societies.

American Chrysanthemum Society, 407; Beekenhams Horticultural, 43, 90, 152, 211, 261; Binfield and District, 78, 286, 306, 349; Birmingham Gardeners', 78, 132, 145, 166, 212, 261, 286, 305, 350, 393; Blairgowrie and Rattray Fruit Growers', 77; Bolton Gardeners', 212, 242; Brighton and Sussex Horticultural, 327; Bristol Gardeners' Association, 20, 78, 152, 173, 260, 306, 393, 498; Cardiff Chrysanthemum, 112; Cardiff and County Horticultural, 78; Cardiff Gardeners', 67, 153, 184, 286; Chester Paxton, 67, 77, 131, 173, 212, 261; spring show, 394; Chiswick Gardeners', 54, 67, 145, 152, 173, 242, 305; Croydon Gardeners' Mutual Improvement, 54, 67, 111, 145, 241, 286, 319, 460; Devon and Exeter Gardeners', 19, 67, 78, 129; Dulwich Chrysanthemum, 153, 407; Dundee Horticultural, 78, 319; Dutch Horticultural and Botanical, 498; East Anglian Daffodil, 371, 330; English Arboricultural, 341; Forfar Gardeners', 55; Gardeners' Royal Benevolent Institution, 29; alteration of rules, 168; annual report, 108; balance-sheet, 109; (Liverpool and the), 165, 252, 260; Grassendale and Aigburth Horticultural, 335; Hailstorm Insurance Corporation, 349; Hanley Horticultural, 153; Hereford Fruit and Chrysanthemum, 152; Hessele (Hull) Gardeners', 78, 131, 242, 243; Highgate and District Chrysanthemum, 111, 129, 132, 212; Horticultural Club (annual general meeting), 154, 151, 319, 341; Ipswich Gardeners', 29, 43, 90, 128, 132, 241, 274, 293, 319, 406; Isle of Wight Horticultural, 559; Irish Gardeners' Association, 127, 155, 513; Kidderminster Gardeners', 7; Kirkcaldy Chrysanthemum, 7; Kyrle, the, 318; Liverpool Amateur Gardeners', 261, 319, 407; Liverpool Horticultural, 90, 112, 191, 286, spring show, 372; London Dahlia Union, 384, 491; Massachusetts Horticultural, 111; Metropolitan Public Gardens Association, 44, 155, 349, 460; Midland Carnation and Picotee, 166; Midland Daffodil, spring show, 392; National Auricula (southern section), 112, 166, 340; spring show, 370; (mid-

SOCIETIES—continued.

land section show), 415; National Carnation (northern section), 112; National Chrysanthemum, 89, 102; (annual general meeting), 130; National Dahlia, 145; annual report, 411; National Fruit Growers' Federation, general meeting, 468, 491; National Rose, 77; resignation of Mr. D'Ombraim, 165; National Sweet Pea, 77, 112; balance-sheet for 1901, 132; Nottingham Chrysanthemum, 190; Nottingham Gardeners', 145; Nursery and Seed Trade Association, 203, 318; Paignton Gardeners', 306; Prescott Horticultural, 43, 145; Reading Gardeners', 111, 131, 175, 286, 306, 350; Royal Botanic, spring show, 392; Royal Caledonian, 90, 145; annual report, 153, 392; annual spring show, 436; Royal Gardeners' Orphan Fund, 55; annual report and balance-sheet, 175, 334; annual dinner, 437; Royal Horticultural (Drill Hall meetings), 66, 109, 148; annual general meeting, 148; Council's report, 148; balance-sheet, 150; committees, lists of the members of, 172, 190, 241, 284, 325, 368, 412, 458; Temple Show, 469, 496, 519; plants certificated, 66, 110, 148, 190, 241, 285, 327, 370, 437, 459, 480, 496, 520, (Scientific Committee), 89, 126, 173, 212, 259, 325, 349, 389, 438, 497, 542; Royal Horticultural of Ireland, spring show, 390; Royal Meteorological, 19, 44, 90, 145, 305, 383, 427; Royal National Tulip, 406; show in Drill Hall, 459; Northern Show, 543; Royal Oxford, 559; Royal Scottish Arboricultural, 131; Scottish Horticultural, 54, 67, 131, 145, 242; semi-jubilee meeting, 280, 329, 392, 407, 415, 499; Scottish Natural History, 155; Shirley (Southampton) Horticultural, 8, 20, 112, 191, 350; Shropshire Horticultural, annual general meeting, 191; Southampton Royal Horticultural, annual general meeting, 173; balance-sheet, 261; Southern Counties Carnation, 291; Spilsby Narcissus and Tulip, 437; Tamworth Pansy Show, 521; Truro Daffodil show, 392; United Horticultural Benefit and Provident, 54, 153, 242; committee's annual report, 260, 349, 427, 514; Wargrave Gardeners', 499; West Derby Horticultural, 175; West of England Chrysanthemum, 182; Winchester Gardeners', 129; Woolton Gardeners', 78, 89, 111, 241; Worshipful Company of Fruiterers, 319; York Florists', 90; York Ga'la, 542

Tacca cristata, 438
 Taj gardens, Agra, India, 298
 Tasmania and Jamaica, 313
 Tate, death of Mr. Henry, 165
 Tegg, the late Mr. James, 259
 Temple House Gardens, Great Marlow, 513
 Temple show, the, 469; certificates and awards of merit, 480; Ferns, Cacti, and Insectivorous plants, 469; fruit, 479; medals, 480; Orchids, 469; plants and groups, 469; Roses, 469; trees and shrubs, 496; vegetables, 479; some impressions of the, 487
 Tennis court, size of a, 22
 Things I should like to know, 40, 62, 98
 Things unusual, some, 220
 Thistles, eradicating from a pasture, 203
 Thladiantha dubia, 245
 Thornton Heath flower shows, 242
 Thrushes and blackbirds, incubation of, 535
 Thuia gigantea, 47
 Timber used, the, 273
 Tits, long-tailed, 39, 76, 125
 Tomato—branch diseased, 547; Coronation, 110

Tomatoes, 254; comments on, 82; disinfecting pots for, 46; outdoor or bush plants, 329; white-fly infesting, 22
 Trade notes—68, 93; James Baldwin, 307; Barker & Son's sundial list, 547; Bench's weed extractor, 417; Blackie and Son, 341; F. Braby & Co., Ltd., 481; Bull & Sons, 538; Carter & Co., 175; Cassell & Co., Ltd., 217; Clay's Successful Gardening, 175; John Downie, Edinburgh, 93, 134; Henry Eckford, 175; Heathman & Co., 481; Horne & Sons, 102, 175; Kelway's Manual, 157; Kent & Brydon, 68; John King & Sons, 525; W. Logan, 157; Messenger & Co., 417; Native Gnano Co., Ltd., 134; "Nonex," 261; Porter's coil stakes, 417; Ransome's lawn mowers, 462; Richardson & Co., Darlington, 68; Seeds for South Africa, 307, 547; E. C. Walton & Co., 134; Ware's, Ltd., 330; Webb & Sons, 157, 261; Weeks & Co., Ltd., 525; J. Williams, Ealing, 93; W. Wood and Sons, Ltd., 63
 Trap lanterns, 182
 Tree—planting at Eynsford, 292; planting, the need for, 366; the Judas, 534
 Trees—a few ornamental, 329; and flowering shrubs for shady spot, 157; and shrubs, flowering, 456; and shrubs in borders around bowling green, arranging, 114; Ash, infested, 524; Coronation, 512; Dundee Coronation, 468; dwarf, sale of, 291; hunting for Coronation, 514; injured at Kew, 366; in Kensington gardens, 7; in the Strand, 367; in towus, the preservation of, 319; planting Coronation, 301, 495; quick-growing deciduous for shady spot, 157; shade, wanted for London, 52; staking, 122; their date of introduction, 98
 Trenching and digging, 122
 Tropæolum, hybrid, 325
 Tropæolums at midwinter, 220
 Truro Daffodil show, 145
 Tuberoses, notes on, 84
 Tulipa sylvestris, 389, 498
 Tulip bulbs for examination, 441; four-flowered, 502; virescent, 542
 Tulips—Darwin, 498; Darwin at Petersfield, 448; in grass, 12; the season of, 434
 Turner, Dr. William, and others, 450
 Turnip, seedlings, 438; varieties, 389, 498
 Turnips, 425
 Turpetine barrel for vegetables, 441
 Twenty-five years' service, 7
 Tynninghame House, East Lothian, 227

Uncut Journal, the, 62, 411
 Unheated wall cases, 202
 Union Jack, flowers for bedding design, 264

Valeriana arizonica, 126
 Vallisneria spiralis, 374
 Variorum—Celtic race, symbolic flower of the, 55; covering flow pipes with asbestos, 77; Dewar, Mr. Daniel, 55; Gerbert Jamesoni, 55; Greek and Roman wines, 366; hardy plants, forcing some, 55; houses for Violets, 268; Peach, Elberta 3,000,000 trees of, planted, 55; ripe Tomatoes and stains, 366; sun's temperature, 366; the lawn, 268; 30,000 fruit trees, an order for, 77; weather abnormally mild in eastern Europe, 55
 Vegetable drying in Worcester, 160
 Vegetables—a chat about, 484; and the Royal Horticultural Society, 418; culinary, 254; evaporating fruit and, 68; food value of, 187; forced, 336
 Venns' Fly Trap, 445
 Verbenas from seeds, 192

- Viburnum tomentosum plicatum, 541
 Victoria, agriculture in, 196; Apples from, 341; fruit in, 402; produce from, 337
 Victoria Regia at Kew, 381; at Regent's Park, 534
 Victorian Apples, 274, 367
 Vine—border, dressing for, 547; borders, new, 138; borders, seasonable hints on, 60; cuttings, striking, 70, 196; leaves, brown blotches on, 502; leaves, crimped appearance of, 375; leaves turned brown, 217; Syrian, 482
 Vines—about, 276; a note on feeding, 484; disbudding, 245; early and late, 264; forcing pot, 34; insects on, 264; newly planted, 456; outdoor, 81, 523; planting, 346; planting young, 502; showing fruit indifferently, 216; showing fruit irregularly, 264
 Vinton's "Agricultural Almanac, 1902," 10
 Violas at Tamworth, 345
 Violet as a mourning flower, 77; disease, 16; La France, 210; leaf disease, 349; new, Pink Gem, 55
 Violets, 122, 408; houses for, 268; Neapolitan, 352; notes on, 213, 291, 362, 388; the Queen's, 294
 Wages, gardeners', 410
 Wagtails, curious behaviour of a flight of, 329
 Walks, attention to, 122
 Wall cases, unheated, 202
 Walnuts, English, in California, 304
 Waltham Cross, 107
 Ware, Messrs. T. S., Ltd., ("Gadding"), 85
 Wasps, early, 301, 363
 Waterbutts, yellow substance on, 546
 Waterford horticulturists, 129
 Waterfowls, ornamental, 222
 Water Lilies, growing from seed, 356
 Water Melon culture, 419
 Watsonia rosea, 163
 Weather—at Belvoir Castle, January, 129; February, 203; March, 318; April, 407; May, 492; summary of the, 1901, at Belvoir Castle, 55, 78
 Chiswick, 8, 45, 69, 78, 112, 135, 155, 177, 216, 244, 263, 286, 309, 352, 374, 384, 416, 427, 463, 502, 547
 WEATHER—continued.
 At Newton Mearns, N.B., 452
 In Ireland, 538
 In 1901, 117
 In March, Temple House Gardens, 318; in May, 513
 In the North (S. Perthshire), 8, 55, 77, 102, 129, 144, 165, 184, 242, 252, 274, 292, 318, 341, 367, 384, 407, 427
 Liverpool, 468; Sussex rainfall, 30; weather, 129, 203, 318, 427, 492
 Weed extractor, a new, 417; sting, charging with neat weed killer, 419
 Weeks & Co., Chelsea, 397
 Wells' Chrysanthemums, 29
 Western Australia produce, show of, 406
 Wholesalers, the, 314
 Wicker shelters, 274
 Wild flowers, familiar, 216; January, 147; February, 207; of old English gardens, 31, 271
 Willow wren, the, 411
 Wilson, the late G. F., 303, 319
 Windsor, new conservatories at, 242
 Wine, recipe for making Grape, 16
 Wittmack, Dr., 77
 Wood and Son, Messrs., 68, 296, 317
 Wood attacked by bees, 6
 Woods and forests, His Majesty's, 54
 Woodland Ferus, 292
 "Woodlands Orchids, The," 10
 Worcestershire village, a, and its gardens, 15
 Wordsley, Cyclamens, Cinerarias, and Primulas at, 188
 Work for the week, 21, 45, 69, 91, 113, 176, 195, 215, 244, 262, 287, 307, 332, 351, 373, 439, 462, 481, 501, 523, 545
 Worries, 137
 Wren, the common, 210
 Xanthoceras sorbifolia, 358
 Xanthoxylum alatum, 16
 Yorkshire Gala, 102, 145
 Zygo-Colax Wiganianus superbus, 313
 Zygopetalum Schröderianum, 403

ILLUSTRATIONS.

	PAGE		PAGE		PAGE
Adiantum Capillus-Veneris, var. cornubiense ..	519	Garden design: scenic effect in; still water—		Portraits—Comfort, Charles ..	281
Angræcum sesquipedale	337	architectural embellishment		Edwards, S. H.	233
Apple orchard, an, in British Columbia..	539	—Roses and shrubs	37	Humphries, Thomas	478
Apple tree, espalier trained, variety Lord Suffield	105	Gourd walk at Parklands, near Guildford ..	257	Knight, Thomas Andrew	472
„ „ Stirling Castle	147	Grammatocarpus volubilis	272	Laird, Robert	281
„ „ wire-trained espalier, variety Lord		Grange, The, Bishop's Stortford	361	Loney, Peter.. .. .	281
Grosvenor	41	Group of Geraniums, white Malvas, and other		Loudon, John Cladius.. .. .	238
Auricula, specimen grey edged	391	plants	382	MacKinnon, William	281
„ the florists' type of an Alpine	447	Halesia tetraptera	140	MacKenzie, Alexander	211
Bauhinia acuminata	343	Hallingbury Place, Bishop's Stortford, Lady		Pownall, Mr. N. H.	259
Bed, raised, on the outskirts of a lawn ..	461	Mawley's lake	430	Rochester, The Very Rev. the Dean of	552
Begonia x Julius	57	„ from the north-west	431	Temple, Mungo	369
British Columbia, an Apple orchard in ..	539	„ the north front.. .. .	431	Wilks, Rev. W.	477
Broughton Castle, my Lady's Garden ..	225	Hardenbergia Comptoniana.. .. .	253	Wilson, G. F., F.R.S.	325
Brunsvigia grandiflora, the Candelabra Flower	33	Hellebores, lesser known	205	Wright, S. T.	478
Calanthe Veitchi, variety	161	Helleborus colchicus magnificus	205	Primula cortusoides amœna grandiflora lilacina	277
Cattleya flower, section of a	22	„ niger scoticus	205	Primula sinensis, single and double	515
Carpet bed, plan of a	71	Heuchera sanguinea splendens	438	Primula sinensis, The Duchess	449
Cell, ten stages in the division of a	394	Holland House, the seat of the Rose Conference	553	Primulas, typical specimens of the stellate ..	205
Cells, young plant	394	„ Wistaria at	560	Rhododendron (Jav. Jas.) Princess Royal ..	187
Celsia cretica	425	Hyacinth, Roman, infested with Hyacinth bac-		„ Sappho	453
Chiswick—Council Chamber	474	teriosis.. .. .	237	Roof garden, a Liverpool	457
„ interior of the Great Vinery.. .. .	473	„ vertical section of, infested with		Rose garden, plans for a	213
„ journeymen gardeners' bothy.. .. .	474	bacteriosis	237	Rose grafting	115
„ the Great Vinery from the west, with		Iris tectorum	146	Royal Horticultural Society—scene at a show in	
rockery and Lily pool	475	„ Warleyensis.. .. .	339	1849, at Chiswick	471
„ trial brake of Phloxes, and part view		Kennedy (Marryattæ) prostrata	65	Saxifraga apiculata	187
of the glass houses.. .. .	479	Kennington Park, carpet bedding in	317	Scenic effect, a—rockery, Alpine plants, and	
Chrysanthemums in London: the collection of		„ „ flower garden	317	waterpool	9
G. R. Peerless, Esq., Clapham.. .. .	61	Lælia anceps Amesie	269	Schizocodon soldanelloides	347
Chrysanthemum Nellie Pockett	143	„ Digbyano-purpurata var. King Edward VII.	295	Seakale, Lilywhite	44
Cinerarias at Wordsley.. .. .	189	Lælia x Latona	379	Shrubs, moving large—diagrams	168
Claytonia siberica, magnified transverse section		Lælio-Cattleya x Chôletiana	249	Swanley Horticultural College, span-roofed range	
of the stem of	522	„ x Queen Alexandra	181	of glass houses at	171
Clematis florida	321	Lathom Gardens, the conservatory in	511	„ ground plan, showing interior arrange-	
„ montana over an archway.. .. .	383	Leek, Dobbie's International Prize	17	ments	170
Cœlogyne Sanderiana	75	Mole trapping	43	Taj Gardens, Agra, view in the	238
Cypripedium x Emperor of India	423	Narcissus fly, the	372	„ „ marble platform in the	299
„ x Mrs. W. Mostyn	101	Nepenthes Northiana.. .. .	127	Temple Show: Lord Aldenham's collection of	
„ Spicerianum	27	Newport, Mon., view in the Public Park ..	169	vegetables	457
„ x Venus, Oakwood variety.. .. .	123	Oak galls	546	„ Messrs. Veitch's Caladiums, Orchids,	
Dahlia, Cactus, Alpha	412	Ochna multiflora	209	Nepenthes, &c.	493
„ „ Clara G. Stredwick	413	Odontoglossum] x Adriane memoria Victorie		„ Messrs. Webb & Sons' herbaceous	
„ specimen bush of a Show, showing how		Reginæ	357	Calceolarias	499
the blooms are protected	405	„ x Adriane var. Mrs. Robert		„ Mr. Leopold de Rothschild's pot Cherries	495
Dahlia, Mr. Mawley and his seedling single..	409	Benson	313	Tynninghame House—Apple walk, eastern half	231
Dendrobium Apollo grandiflorum	201	„ x Adriane var. Sybil	529	„ fountain at intersection of cross	
„ Lowi	5	„ crispum var. Robert McVittie	445	borders	223
Disa x Luna	485	„ crispum var. Ardentissimum	507	„ Galtonias and Gladioli in border	229
Edgbaston Auricula Show, group of Judges,		Pansies, a plea for the	365	„ gateway to walled garden, over-	
Officials, and Friends at the	489	Peach, Duke of York.. .. .	544	hung with Vines	232
Epergne, an improved	154	Pear, General Wauchope	20	„ Phloxes, Pentstemons, and Holly-	
Epidendrum Lindleyanum	53	„ Uvedale's St. Germain, summer and		hocks at end of the Rose walk	230
Fern in a bottle	46	winter views of, at Weston House,		„ the west front	227
Ferns, Tree, in Brazil	3	Shipston-on-Stour	87	Watsonia rosea	163
Formal front, a	193	„ Winter Nelis	91	Vallisneria spiralis	374
Britillaria askabadensis	293	Phalenopsis Schilleriana	551	Viburnum tomentosum plicatum	541
„ citrina	79	Plum, Rivers' Monarch	13	Vicar's garden, a, seven miles from London..	235
„ racemosa	79	Polyanthus, specimen gold-laced	387	Victoria, Vancouver Island, vicinity of ..	537
Garden design: a screen and shelter belt ..	279	Polypodium glaucum Mayi	451	Violet, Princess of Wales	362
		Portraits—Banks, Sir Joseph	472	Zygo-Colax x Wiganianus superbus	313
		„ Bull, William, V.M.H., F.L.S.	521	Zygopetalum Schröderianum	403

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Journal of Horticulture.

THURSDAY, JANUARY 2, 1902.

New Year's Address.

I S I am again privileged to address a few words of affectionate greeting to those horticulturists who find in the pages of the Journal so much to interest and profit them, I feel more acutely than ever how greatly that privilege is enhanced by the recollection of the number of years that this same pleasant task has been open to me; and yet it has its shadows as well as its sunshine. Every year reduces the number of those with whom I have been able to take close communion and fellowship. There are those whose sturdy handshake one will never again feel, and whose kindly smile has passed away; but it is so in every walk of life, and it is in very truth our allotted portion here. But I would rather not dwell on this, but recall to mind the happy experiences through which we have passed.

Looking back through the past year I think we may regard it as one of great quietness in horticultural matters. By quietness I do not mean stagnation, for that has not been; but no heroic schemes have been brought forward, and many of those which have been considerably agitated during the past few years seem to have been quietly dropped. No very startling novelties have been introduced, and altogether "quietness and confidence have been our strength." It is well that it should be so at times, and so long as we do not suffer that quietness to degenerate to apathy we should not complain of it. As in duty bound, our first thoughts must be directed to our great central body of horticulture—the Royal Horticultural Society; and I know of nothing that shows its vitality more than that, in the midst of

R EADERS are requested to send notices of Gardening Appointments or Notes of Horticultural Interest, intimations of Meetings, Queries, and all Articles for Publication, officially to "THE EDITOR" at 12, Mitre Court Chambers, Fleet Street, London, E.C., and to no other person and to no other address.

gloomy surroundings, it should hold on its way and show a greatly increased number of new members. In years past the horticultural world was agitated by many suggestions with regard to its society; a great central hall was to be erected where meetings of the society might be held, while dear old worn-out Chiswick was to be replaced by some new locality out of the reach of the smoke and dust of London, and where trials of various productions might be carried on under more promising aspects than at present. At one time a change in the latter seemed to be imminent. Two sites had been selected; one near Limsfield and the other near Dartford. A good deal of acrimony had been infused into the contention as to which of these sites should be chosen, but after a while the whole controversy ceased, and Chiswick remained triumphantly in possession. It was said that it had twenty years' lease to run, and to some it was a regular fetish. It had been associated with some of the triumphs of the Royal Horticultural Society, and people were unwilling to give it up; although the soil had been pretty well worn out, and the operations of the builder had contrived to shut out both air and light yet people clung pertinaciously to it. In the same way grand schemes had been proposed for a Horticultural Hall, but here again one of the main difficulties was the provision of a suitable site. The golden opportunity had passed away, a few years ago. A site could have been procured on the Thames Embankment, and I must always think that it was a reflection on a science which includes within the ranks of its votaries men of great wealth, that that opportunity was not seized.

The Drill Hall, in St. James Street, is all too small, as anyone can see in the height of the season, when it is filled to overflowing. Of course these meetings are mainly supported by the trade, although there are some amateurs like Sir Trevor Lawrence, Captain Holford, and others, who show their zeal for the Royal Horticultural Society by entrusting their much valued favourites in what some have called the dust-bin of this society. The Floral, Fruit, Orchid, Daffodil, and Vegetable Committees have carried on their sittings as usual, and a considerable number of novelties have been brought before them. The question has been largely discussed whether there has not been a too lavish distribution of Awards of Merits and Certificates. Of course value attaches to these awards in the eyes of the public; but how is any horticulturist, however zealous, to keep abreast of the numerous varieties which are awarded? Will a chrysanthemist cultivate the thirty-five new varieties? And how are Orchid growers to accommodate the large additions which are made every year?

During the past year Awards of Merit have been granted to eleven *Cypripediums*, twenty-four *Cattleyas*, six *Lælias*, eighteen *Lælio-Cattleyas*, twenty-four *Odontoglossums*, besides *Masdevallias* and others in smaller quantity. Passing to other subjects we have thirty-four *Chrysanthemums*, thirty-five *Dahlias*, *Gladioli*, *Tulips*, *Roses*, *Narcissus*, and *Pelargoniums* all receiving awards.

The various special societies have had a good time. In the National Rose Society a great change has been made, which, let us hope, will be permanent. The metropolitan exhibition has been removed from the Crystal Palace to the Gardens of the Inner Temple, generously granted by the Benchers. This movement, which was successful beyond all expectations, was a great risk, but I suppose the society's motto was "Nothing venture, nothing win," and having ventured, it has received a grand reward. The National Chrysanthemum Society has also had a very successful year; the National Dahlia Society has had a good deal of trouble; the clouds lowering over it, and I believe its place of meeting is also likely to be altered. Owing to the character of the season the exhibition of the National Auricula and Primula Society was much below the average.

Those who look for instruction in the horticultural Press will have no possible ground for growling. The four leading journals have well maintained their character. "The Gardener's Chronicle" satisfies the minds of the more scientific in the horticultural world; the Journal is the organ which amateurs especially delight in; "The Garden," under the care of its accomplished co-editors, Miss Jekyll and Mr. E. T. Cook, satisfies those who desire to see the æsthetic side of gardening made more prominent; while "The Gardeners' Magazine" is I think, more favoured by practical men. Books on various departments of horticulture have been brought forward by many authors. Mr. Foster-Melliar is engaged in bringing out a new edition of

his book on "Roses," which must inevitably be the standard authority on the subject. The Horticultural Club has well maintained its object in affording a meeting-place for social intercourse amongst horticulturists. The accommodation prepared for its members leaves nothing to be desired, and it is to be hoped that there may be an accession this year to fill up the gaps which time and circumstances are sure to create.

And now I come to what is always the saddest part of these retrospects—the calling over the names of those who have passed away from us during the past year. Foremost amongst these I must place the name of one whom the French would call the *doyen* of horticulture—I mean Mr. Martin Hope Sutton, the founder of the world-wide known firm of Sutton and Sons, of Reading. I had the privilege of his acquaintance for fifty years and a privilege it was. A high-souled Christian man, full of good work and practical benevolence, we had much of common interest together, and his acquaintance with many leading men in the religious world enabled him to bring out of his memory much that was valuable and instructive. His practical benevolence was very great. He was always, however, characterised by good sense as well as real love for the poor and suffering. He had the happiness of seeing his children walking in his footsteps; while the firm from which he had retired since 1888, is now in the hands of sons and nephews, who will maintain the high character to which it has attained for rectitude, promptitude, and courtesy. Mr. D. T. Fish, Scottish of the Scotch, was a thoroughly good gardener, and to those who could understand him a most pleasant companion, for he was full of good anecdotes and personal experiences. Mr. James Cypher, of Cheltenham, was a remarkable man. In early life he was in the service of a lady whom he served faithfully, and took especial care of her garden and greenhouse. At her death she left him a small sum of money, with which he laid the foundation of the Queen's Road Nurseries; there he grew those marvellous stove and greenhouse plants with which he distanced all competitors at the great exhibitions of the West. By him the most difficult plants were subdued, and no matter whatever he attempted to cultivate he succeeded with it. He was a good man, and I used to see him in his place as churchwarden, in Christ Church, Cheltenham.

All lovers of herbaceous plants know how much the Rev. Henry Ewbank promoted their culture, and by his death we have lost one of the most successful cultivators and fluent teachers in this department, which he did so much to promote. He used to come to see his old schoolmaster, who had the neighbouring parish to mine, and I little thought when we walked down my garden together, and when he used to tender me his sympathy on account of my failing sight, that he would pass away before. In Miss Ormerod horticulturists mourn over the loss of one who did an immense service by her researches into the ways and habits of our insect pests, and for the way in which she encouraged us to deal with them. If by the death of Mr. Ewbank we lost our most distinguished amateur cultivator of herbaceous plants, we have, by that of Mr. T. S. Ware, lost our most prominent trade cultivator in the same class of plants, but his business is carried on as usual. Mr. Thomas Rochford was one of the most successful of our great metropolitan market gardeners—generous and hospitable. One of his last acts was the entertaining the members of the Horticultural Club and their friends on their annual excursions.

So our numbers diminish and others come forward to take their place, and perhaps coming fresh to it they infuse fresh vigour into the cause we all love so well. And may I, before I close these remarks, say a few words about myself? I rejoice very much to be still connected with horticulture and horticulturists. Of course the infirmities of age prevent me from taking as much pleasure in them as I used to; still the desire is there, and as I told the members of our National Rose Society at our annual dinner last week, I feel like an old hunter turned out to grass. He hears the hounds in full cry and thinks he is going to take his place in the road; he whisks about for a few paces and then finds he must stop, so will my kind readers of the Journal bear with my shortcomings? But still do not abate your zeal so long as you can enjoy anything of the garden. I look back now upon a long life, and can assure you there are few things outside my own calling that have been such a pleasure to me as my garden. Wherever I have been I have managed

to have one, small or large, as the case might be (but mostly small); and so I would urge you all to a reverent care of those glories of God's handiworks with which you may be surrounded. Remember, if we are sincere in our profession we are looking forward to no earthly paradise, but to that second Eden in the Paradise of God, and so may God bless and preserve you all.—D., Deal.

The World's Ferns.

Ferns are the most graceful group in the vegetable kingdom. From the pigmy Woodsia, 3in high, to the Dicksonia that towers up to 30ft, all are elegant, and all are refreshingly tinted.

In some respects they are the most popular of plants, for many species are long-lived anywhere—in the windows of the town-artisan's room as well as in the fernery of the wealthy. Moreover, they are easily cultivated; they require no manure, their only demands being moisture about their roots and fronds. They are the world's plants. We have a great many species natives of this country. In Brazil the Ferns abound on the mountain ranges of the Organ and Andes—the tree Ferns, as represented in our engraving, abound there. Two hundred and fifty species have been recognised within a circle of fifty miles diameter in Peru, 340 species in the British West Indian Islands, and 450 in Java alone.

Mr. Williams, in his "Select Ferns," adds: "Borneo, Sumatra, Malacca, and the Philippine Islands abound with them, as well as the whole of the East Indies; and very few, comparatively, from the latter country are in cultivation, though many are peculiarly beautiful and interesting. In Mexico great numbers exist, some 300 species having been described which are not in cultivation. In Western Africa great quantities of Ferns are found, and many of them species that are peculiar to that country. At Fernando Po, some considerable distance up the mountains, a splendid Cyathea is found, forming groves, and reaching upwards of 30ft in height. It is a fine species, and the crown, rachis, and stipites are densely covered with large, black, chaffy scales. Again, if we come round to the Cape, in South Africa, a quantity of Ferns exist there that have never yet been introduced to our gardens, and no doubt many new species on that continent still remain unknown to science. So also in many other places where the atmosphere is sufficiently humid they are to be found, from the humble species of an inch in length to the noble arborescent, kinds, rearing aloft their splendid crowns of fronds on stems from 10ft to 40ft high, beautifying the landscape, and forming objects of individual grace and elegance which we are only now just beginning to realise for ourselves."

On some of the East Indian Islands the tree Ferns are so

numerous and so social that their stems are literally crowded, and Ferns gradually diminish in numbers as the temperature of the latitude decreases. In the torrid zone they number in the proportion of 1 to 20 of other plants; but in the islands of the tropics, where the atmosphere is still more moist, their proportion is still larger—in Otaheite being as 1 to 4, in St. Helena 1 to 2, and in Tristan da Cunha as 2 to 3. Passing to colder regions the proportions are much lower, being in England 1 to 35, and in Scotland 1 to 31. Where moisture and shade are absent they are still more restricted in numbers, being in the Grecian Archipelago 1 to 227, and in Egypt only 1 to 971. In the Arctic regions no Ferns have been found, and only four species on the North Cape of Norway; and in Baffin's Bay only one, Lycopodium Selago. Ferns maintain a high position if their utility is considered. Their fronds are among the most graceful ornaments of the boudoir, the dinner table, the bouquet, and the head-dress. Capillaire is prepared from the Black Maiden-

hair, Adiantum nigrum; and Mr. Williams details that "The pith of Cyathea medullaris is eaten by the New Zealanders, and the stems of Pteris esculenta and Callipteris esculenta, as well as the tuberous roots of Nephrolepis tuberosa, have been used for food, but, generally, when nothing better was to be obtained. Lastrea Filix-mas, Ceterach officinarum and Scolopendrium vulgare, &c., have been used medicinally; but with the exception of the first they are not in much repute. The styptic drugs brought from Sumatra under the barbarous names of Penghawa Djambi, and Pakoe Kidang, are supposed to be the produce of Ferns. A species of Cibotium, which is very common in the Sandwich Islands, has had its stipes stripped of the long dense hairs with which they were clothed, and carried away to California and Australia, for the temporary purpose of stuffing cushions and beds."

In the gardener's special domain they aid him in every one of its ornamental departments. In shaded borders and rockery, Adiantums, Cyrtomiums, Lastreas, Lomarias, Osmundas, Woodsias, and many others may be grown and fringed with Lycopodium and hardy Selaginellas. To enumerate those which may occupy the stove, greenhouse, and conservatory would be to name the whole of the Filices. There are more than 150 species that will thrive in glass cases in the dwelling-room, and fifty that are fitted by their habit to adorn pendant baskets.

We hope to furnish much more information respecting the beautiful

Ferns in the coming twelve months than we have lately done. For the nonce, Ferns are not greatly studied.



TREE FERNS IN BRAZIL.

The Poisonous Cape Tulip.

The weed referred to is *Homeria collina*, and of late years has been spreading in districts of Western Australia, where its poisonous properties have been the means of dealing death amid numerous cows there. Active measures are being taken to ensure the eradication of this pest.



Dendrobium Lowi.

It is fully forty years since the Orchid we figure on page 5 was introduced from Borneo. It is a pretty flowered species, with pseudo-bulbs 1ft high, and internodes covered with black hairs. The leaves are 3in long. The pale yellow flowers with purplish lip, are borne in compact racemes. Each flower is 1½in across the funnel-shaped mouth, and possesses a distinct spur. Mr. Watson recommends it to be grown all the year round in a moist tropical house. It is happy either on a small block of soft Fern stem, or a shallow teak basket with a little sphagnum about the roots. It is not a very common Dendrobe, and good plants fetch 15s. each. It flowers variously during the summer and autumn, the latter season more especially.

The Week's Cultural Notes.

After flowering, that useful winter Orchid, *Zygopetalum Mackayi*, as it is known in gardens, has usually a little leeway to make up in its growth, especially if the plants have been placed in a cool house to conserve the blossoms. This necessitates keeping them in moist growing quarters for a while, after which the plants take a short rest before commencing to grow again. But though at rest or nearly so, the root must not be kept absolutely dry. A moderate amount of moisture is always necessary, both in the atmosphere and at the roots.

One of the first Orchids to commence growing in the Mexican section is *Lælia anceps*, and the roots being often active early in the new year, repotting may be proceeded with. I use the term repotting, but *L. anceps*, as a rule does better on rafts or in shallow baskets than in the ordinary make of pot. Very often it will be unnecessary to remove the plants from the receptacles, simply removing some of the old material and replacing it with new. This prevents disturbance, and with a little practice with a medium-pointed dibber anyone soon gets the knack of firming and neatly placing the peat and moss.

I hope to give fuller details of this work a little later when the proper time arrives, but it is as well to be prepared beforehand, and now is a good time to look over the stocks of compost materials. Plenty of peat fibre must be prepared by shaking out all the earthy portions, sand, and the large Fern rhizomes that are usually present. It may, if preferred, be purchased ready prepared for use; but it is more expensive, and not only this, but the "waste" comes in very useful in other departments of the garden. When ready, store it in a dry place ready for use, an old sugar or flour barrel being an excellent receptacle for it.

Sphagnum takes a long time to prepare, and although much may be done now by picking out sticks and other extraneous matter, much of the preparation must be left until a day or two before use. The growing points may be selected and kept by themselves for surfacing; the tough white portion may be used for chopping up for mixing with the peat; while the roughest part should be set aside for covering the drainage. Prepare plenty of stakes, labels, crocks, charcoal, and loam; see to the stock of baskets, pans, and pots, so that there will be no hindrance to the work later on.—H. R. R.

Grammatophyllum speciosum.

A specimen of this giant Orchid is now flowering in the Victoria Regia house, in the Royal Gardens, Kew. We make a few extracts relative to it from Mr. William Watson's book on "Orchids." He writes: "This has been termed the 'Queen of Orchids,' and is said to be the largest known. It produces stout, woody pseudo-bulbs 5ft to 10ft in height, these being erect and clothed at the upper part with leathery sheathing leaves, 1½ft to 2ft long. The flowering scape is from 5ft to 6ft high, and erect. The flowers are 6in in diameter, the sepals and petals being broadly oblong, wavy at the margin, and of a rich yellow ground colour, blotched and spotted with reddish purple; the lip, which is three-lobed and comparatively small, is yellow, streaked with brownish red. It is a native of Java, Singapore, Cochinchina, &c., and was introduced in 1837—the year of our late Queen's accession.

"This gigantic Orchid cannot be successfully grown unless placed in a very hot stove, in full sunshine, with the atmosphere kept constantly saturated. It was first flowered in the once famous nurseries of Messrs. Loddiges, of Hackney, and again by the late Mr. Day, at Tottenham. In both cases the flower-spike was small, and it was developed very shortly after the plant had arrived in this country. Mr. Day, who had seen it growing in all its native luxuriance at Singapore, recommended the treatment here advised. The roots of this species sometimes grow erect and develop short, spine-like rootlets, which, when dry, are as

hard as thorns. All the Grammatophyllums appear to have the habit of developing these upright or heliotropic roots." Many of our readers must have noticed the wonderful specimen at Kew. It stands fully 10ft high, and is an imposing feature of the corner in which it stands. The tub is just above the water.

Oncidiums.

The genus *Oncidium* contains a very large number of species, the majority of which are fine garden Orchids, some, indeed, being quite indispensable. They flower at varying seasons, not a month in the year but what has its representatives, and were one tied to a single genus for maintaining a display there is probably no other that would come so near to filling the book. Certainly a large number of the species contain more or less yellow in the flowers, and to lovers of variety this may appear a fault: but they are not all yellow by any means, and in some of the yellow species there are very lovely combinations with purple, chocolate, and other tints that relieve the monotony.

The geographical distribution of *Oncidiums* is very great, ranging from Southern Brazil in South America to Mexico in the North, following both coast lines, and occurring freely in the adjacent islands. The climatic conditions over such a vast area naturally vary considerably, so that nothing like a general scheme of culture can be laid down, while to follow each species and give full details would require a few numbers of our Journal, to the exclusion of all other subjects.

Perhaps the most difficult group to keep in health for any length of time is that comprising *O. crispum*, *O. Forbesi*, and their allies. When first imported, these Orchids grow vigorously enough and flower regularly; but, grow them as one will, they seldom get much larger, and when once they fall into ill-health it is only a question of time for them to last. Nothing will restore their lost vigour or recuperate them in the least. I have had the best results by placing them on rafts of teak very lightly dressed with compost, about equal parts of peat fibre and sphagnum moss being suitable.

The best position for *O. crispum* is close up to the roof glass in a house where the Brazilian Cattleyas and *Lælias* thrive, and as near a ventilator as possible. The growth is harder and more fully developed here than in a very hot, moist house, consequently the plant is not so likely to be checked by changes of temperature in winter, and flowers are produced more freely. It is imperative that both the rafts and the compost should be as lasting as possible, as very often the first back-set to these lovely plants occurs when it becomes necessary to renew these. A lasting compost and receptacle, then, may prolong the life of a plant that would otherwise commence to decline when disturbed.

Another large and important section of the genus is that comprising *O. macranthum*, and the species generally having long scandent spikes of showy flowers. They are more easily grown than the last group; but the same remark applies to their free flowering nature and the mischief done by over-flowering. Still, the pseudo-bulbs are generally larger, and consequently not so easily exhausted.

The best position for this set of plants is the cool *Odontoglossum* house. The roots, it will be noticed, are larger and more fleshy than those of *O. crispum*, and must have more material to run in. Pots that will allow a margin of 2in or 3in around strong plants will be best, as this allows the roots full play. As such a large body of peat and moss would soon compress into a close, inert mass without some mechanical division, it will be advisable to place a larger quantity than usual of crocks and charcoal lumps in it. The habit of these plants may almost be described as climbing, each pseudo-bulb growing higher than the one preceding it. This necessitates potting rather low in the first instance, as subsequent top-dressings will be necessary, and these will raise the compost to an inconvenient height. The reason of the top-dressings is that the roots from the base of the bulbs are produced higher up annually, and therefore out of touch with the original compost. The risk of being eaten by insects is, of course, greater the farther they are away from the compost line.

Quite a distinct section of the genus is that in which the species have no pseudo-bulbs. *O. Cavendishianum* and *O. Lanceanum* are well-known members of this set. The culture of these varies a good deal, according to the habit and likings of each. The latter fine sort delights in ample heat and moisture all the year round—can hardly be kept too warm in summer. But the former is very well suited in the Cattleya house, with ample light and not too abundant moisture, especially in the autumn. Beyond this it is hardly practicable to group the species, but those named below are the best of the sorts in general cultivation.

O. ampliatum has large leathery leaves and roundish purple pseudo-bulbs, from the base of which, when matured, the flower-spikes spring. These carry a large number of flowers, and are often as much as a yard in length. The principal part of the blossoms is bright yellow marked with red about the centre. It likes ample heat and moisture.—H. R. R.

British Dye Plants.*

The dye-plants of our own country have long ceased to possess any general interest. The introduction of foreign dyes, superior in colour and in many cases in durability, during the seventeenth and eighteenth centuries rapidly displaced the native dye-plants, except in certain specially out-of-the-way localities, such as the Highlands of Scotland and certain parts of Ireland, where they are still employed. We owe to the broad-mindedness of Linnæus a record of such native dye-plants as were in use in Sweden and the North of Europe during the first-named period. In his "Amœnitates Academicæ" he published a paper by E. Jörlin, of Upsala, containing an enumeration of the plants in question. In Withering's "Systematic Arrangement of British Plants," numerous interesting notes are appended to the descriptions of many species. Amongst these notes one finds recorded their tinctorial properties. This information appears largely to have been derived from the "Amœnitates," but by no means entirely; for quotations from Lightfoot's "Flora Scotica" (1777), Pennant's "Tours in Scotland" (1782), and Rutt's "Natural History of the County of Dublin" (1772) are also made.

The fourth edition of Withering's work, published in four octavo volumes (1801), enumerates some fifty species as possessing tinctorial properties. During the past two seasons, 1900 and 1901, I have, with the help of many botanical friends, who have aided me by collecting material, put to the test of actual experiment about sixty reputed dye-plants, the result of which I have the honour of submitting to the Scientific Committee. The object in view was, not so much to test exhaustively the capabilities of these plants by the aid of modern mordants, as to see what colours they would produce with such simple chemicals as were available by our ancestors some two or three centuries ago, when home-spinning and home-dyeing were carried on in every house in our country districts. These substances were, first and foremost, alum (a salt known to Pliny), copperas (sulphate of iron), pearlash, ammonia, and lime. These sixty plants have yielded some 150 varieties of colour, the specimens of which are before you, arranged, not as a dyer would arrange them, according to colour, but botanically, in their natural orders.

It will be seen at a glance that some shade of yellow is the most frequent colour the wools have taken. In the majority of cases this is probably due to xanthophyll, and is of doubtful stability. In conducting these experiments it was noticed again and again how almost every green plant, when boiled with the wool, gave it a yellow colour on the addition of alum as the mordant. It seemed as if the alum analysed the chlorophyll by fixing the xanthophyll upon the wool. Such diverse plants as *Thalictrum flavum*, *Anthyllis Vulneraria*, *Myrica Gale*, *Stachys sylvatica*, *S. palustris*, *Polygonum Persicaria*, *P. Hydropiper*, *Humulus Lupulus*, as well as the leaves of Pear, Plum, Birch, Willow, &c., all gave this colour.

These yellows are all pale, and are darkened by alkalies, either potash or ammonia. The yellow from *Senecio Jacobæa* is largely used in the Highlands, where this plant is known by the name of "Stinking Willey," a designation given it in detestation of the general who commanded the English forces at the Battle of Culloden. Certain yellows, however, had obtained so great a reputation as dyes in the time of the older botanists that they then received the word tinctoria for their specific names—viz., *Genista*

tinctoria, *Anthemis tinctoria*, and *Serratula tinctoria*. The best yellow is produced from *Reseda Luteola* (Weld), a plant used by the professional dyer until quite recently. It owes its tinctorial properties to an alkaloid—luteolin. *Genista tinctoria* was used well into the middle of the nineteenth century; it gives a good permanent yellow, but not so pure a colour as Weld. Formerly, however, it was preferred by the dyers to all others for wool that was to be dyed green. This constituted the green colour of the cloth for which the town of Kendal was celebrated in bygone times, reference to which occurs in Shakespeare, in 1 Henry IV., ii., 4, "How couldst thou know these men in Kendal green?" and also in Sir Walter Scott's "Lay of the Last Minstrel," iv., 14, "The Kendal archers all in green."

Three of the Compositæ give yellows approaching orange—namely, *Anthemis tinctoria*, of which the tint is the lightest, but admittedly fast. *Chrysanthemum segetum*, and *Bidens tripartita*, the last-named being the most beautiful. It is developed only on the addition of alum. Of browns there are many, a round dozen, from Alder bark (*Alnus glutinosa*) alone, variously modified by potash, which gives tints of red, or "saddened by copperas,"

which gives shades of black. These colours are all tannin derivatives. Somewhat similar colours are obtained from Birch bark (*Betula alba*), and Oak (*Quercus Robur*). Yellow browns are obtained from "Ling" Heather (*Calluna vulgaris*), and the barks of the two *Rhamni* (*R. Frangula* and *cathartica*). The fine russet brown obtained from the lichen known as "oaklungs" (*Sticta pulmonacea*) is one of the best in the series. The well-known crottle browns, from *Parmelia saxatilis*, *omphaloides*, *caperata*, and *physodes*, do not differ greatly.

Probably the richest and best brown is that from fresh walnut husks—a dye used by the professional dyers up to quite a recent date. No mordant being required, the wool dyed by means of this substance is soft and free from all harshness. Not far behind it is the colour obtained from the rhizome of the white Water Lily (*Nymphæa alba*), a dyestuff used in the Hebrides in the time of Pennant's visit (1782). Of simple greens there are not many representatives, the best and most durable being obtained from a ground dye of Woad "topped" with weld (*Reseda Luteola*). This probably constituted the Lincoln green of Robin Hood fame. It is alluded to by Sir Walter Scott in "The Lady of the Lake" (v. 17), "Four mounted squires in Lincoln green." Wool thus dyed may be obtained in many shades, depending upon the depth of the original blue. Some of the lighter shades are very beautiful, approaching the so-called grass green, to which Chaucer refers in his poem of "The Flower and the Leaf": "Freshly yturfed, whereof the greene grass . . . most like to greene wool."

In addition to the Kendal green previously referred to, specimens are shown in which the yellow has been supplied by the fresh inner bark of the Crab Apple (*Pyrus Malus*), of the Ash (*Fraxinus excelsior*), and by the root of the common Dock (*Rumex obtusifolius*). Less brilliant greens are obtained from the ripe berries of the common Privet with alum, and the flowering tops of the common Reed (*Phragmites communis*) with copperas. Not a single really good red is obtainable from any British plant, whereas Sir Thomas Wardle found red to be the commonest colour in the dye-plants of Asia when he examined them some years ago. The beautiful but fugacious eudbears from the maceration with ammonia of the thallus *Lecanora tartarea*, *Umbilicaria polyrhiza*, and *Urceolaria scruposa* are represented.

The dull reds of *Potentilla Tormentilla* and *Comarum palustre* require a trace of potash to develop them. The fast if not brilliant madder red of the root of *Galium verum*, with the more beautiful pale orange, are the only representatives of the Rubiaceæ shown. Perhaps one of the specimens nearest to red is that dyed by the fresh inner bark of *Betula alba*. One plant only yields a blue colour—*Isatis tinctoria*, the well-known Woad. Various shades are represented which possess certain peculiarities in tint that are greatly admired by those persons who appreciate "art colours." Mr. W. Croysdale, of Leeds, tells me that these peculiar tints can be produced in indigo in certain conditions of



DENDROBIUM LOWI. introduced from Borneo, 1861.

* A paper read before the Scientific Committee of the Royal Horticultural Society by Dr. Plowright. Abridged from the R.H.S. Journal, December, 1901. "This paper was illustrated by a most interesting exhibit of three very long series of 150 skeins of wools dyed with native dyes. The paper unavoidably loses a little of its interest and much of its attractiveness by the impossibility of reproducing all the colours, tints, and shades obtained. It must suffice to say that the general tone and effect of the various dyes was very distinctly and beautifully in the direction of what may be best described as High-art shades."

the Woad-indigo vat, but to go into the subject of Woad, and the process of dyeing with it, must be reserved for a future occasion.

Royal Horticultural Society.

Scientific Committee, Dec. 17th.

Present: G. S. Saunders, Esq. (in the chair), Rev. W. Wilks, Geo. Gordon, C. T. Druery, J. W. Odell, J. Douglas, E. A. Bowles, H. J. Chapman, and Dr. Masters.

Wood attacked by Bees.—Alluding to a specimen shown at the last meeting Mr. Saunders said:—"There was some wood shown at the last Scientific Committee meeting, which was unquestionably attacked by the caterpillar of the Goat-moth, *Cossus ligniperda*; but there was also a piece of soft wood, probably Willow, which I find on examination was not attacked by any caterpillar, but by one of the wood-boring bees, probably *Crabro cephalotes*, or *C. chrysostomus*. Each nest was partially filled with the remains of blue-bottle flies on which the grubs had fed. The insects had not utilised the borings of any other insect. The wood no doubt was decayed before the bees attacked it, so that they were in no way the cause of the death of the wood."

Banana disease.—Referring to a specimen previously shown at the Committee, the following remarks by Dr. Axel Preyer were read:—"For about three years a peculiar disease has been spreading amongst Bananas cultivated near Alexandria. The first symptoms of the disease are to be observed in a sudden check of growth, and soon after the leaf-points and the youngest central leaf become black and die. The latter gets rotten, numerous ants and other small animals inhabit the upper part of the stem, and the putrefaction proceeds downwards. The stem does not die immediately, but it is naturally unfit to bear fruit. Very characteristic is the appearance of a great many small crippled leaves instead of a few, well-shaped large ones, as is seen in the sound plant."

"A strongly-infected stem dug out of the earth with roots was cut in a longitudinal direction. In the upper part, the youngest leaves were all black and rotten, the outer layers were white, and seemed to be sound, only the fourth and fifth layers were dark brown and saturated with a putrid liquid. The lower part of the stem and the root-stalk showed no sign of disease. But on the roots themselves, especially on the root-tips, one could observe small knobs, generally accompanied by an excretion of a resinous substance. Sections of these knobs were first examined under the microscope, and their contents were found to be relatively large egg-sacks of a kind of pest belonging to the Nematodes. The eggs were in different stages of development, even some full-grown Nematodes, possessed with great mobility, had penetrated into the cellular texture of the root. On further investigation, and by comparing infected with uninfected plants, the Nematodes may be stated to be the cause of the Banana disease; therefore the latter is due to an infection of the roots."

"The Nematodes themselves are in shape long, thin, and cylindrical, with a round mouth-end and a fine sharp point at the other end, which is strengthened by a thickening of the epidermis. The whole length is 0.57 millimetres, the maximum diameter 0.014mm. The pest belongs to the genus *Tylenchus*, but its specific identification has not yet been ascertained. The Nematode resembles very much the *Tylenchus acutocaudatus*, Zn., which is the cause of a well-known dangerous Coffee disease in Java. As to the biology of the Banana *Tylenchus*, it is an interesting fact that the pest not only lives in the roots, but ascends with the watery liquid streaming upward, and is to be met with in great numbers in the upper parts of the stem. I could not, however, find any egg-sacks in these parts."

"The most important question with regard to the Banana-disease is, of course, how to suppress it. In this case the task is rather difficult, because the Nematodes live free in the ground, and seem to have spread over a great area near Alexandria. Experiments are going on by manuring the Bananas with nitrates, and by isolating the plantations by deep canals; but no results have as yet been obtained. In Java the planters cut out the Coffee trees infected by *Tylenchus*, and avoid planting Coffee again on the same ground for several years. In Egypt this disease should be carefully watched, as the *Tylenchus* might, perhaps, attack other plants; for instance, the newly cultivated Sugar Beet."

Diseased Peach shoots.—Mr. Gordon showed some Peach shoots in which detached patches on the outer bark were dead. Mr. Gordon suggested that the appearances were the result of the attack of the Shot-hole fungus, *Cercospora*. The specimens were referred to Mr. Massee for examination and report.

Seedless Grapes.—Mr. Gordon also showed specimens of Grapes devoid of seed. This was attributed to imperfect fertilisation. Some varieties, it was remarked, are much more

liable to imperfect fertilisation than others, and a difference is observable according as the Grapes are grafted on a particular stock, or as to whether they were on their own roots.

Clubbing in Cabbages.—Mr. Douglas stated that the application of gas lime in spring just before planting did no good at all. A second application in June killed the plant, but did no harm to the Club-root fungus.

Bulbs.—Dr. Masters showed from Mr. D. Turner three bulbs of *Narcissus* one above another on a stem, the lowest bulb being the oldest. It was suggested that they might have been kept out of the ground for a long time before planting.

Rhododendron fasciated.—A specimen from Mr. A. Waterer was shown in which a branch was fasciated, and the "crest" at the top of the branch was succulent and fleshy.

The Past and the Future.

The first year of the twentieth century has now run its course, and adds another layer to the "Mountain of Time" which forms that mighty Past. Ere its last days have vanished from our present minds it is natural that those of a thoughtful turn of mind should look backward to the lessons learned from a year's successes, failures, and mistakes. Gardeners as a body must certainly be termed men of action, and unless they possess at least an average share of activity their failures are likely to outweigh their successes. It is quite as necessary, however, that they be men of thought, and when these two characteristics are happily combined in one individual we see a man who stands above his fellows, and, like Wellington, does not wait for opportunities, but creates them. It is given to none to attain perfection in any art or craft; and those who follow "Adam's" calling are not likely to harbour the vain hope that finality, in regard to knowledge—or in the results achieved by applying that knowledge gained to the best advantage—will ever be reached. Most of us know well that the best-laid plans, the best cultural practices, are dependent upon the vagaries of our climate for the full measure of success, and that the highest ideals of one generation will not suffice for the next. Knowing these things, it behoves us all at the close of each season to take our thoughts backward through the past, to make a mental note of the weak points in our armour, and strengthen them for the conflicts of the coming year. It is only by such strenuous endeavour in seeking knowledge and in avoiding mistakes that anyone can hope to "press forward."

The Opening Century.

The battles of the present century seem likely to be battles of "brains" to a far greater extent than during any century which has preceded it, and the rising generation of gardeners should use every endeavour to take full advantage of the splendid facilities for gaining knowledge which are now within the reach of all. The gardening literature of to-day is a great and living force which seems to have permeated every section of the community, and there are unmistakeable signs that thousands who are toiling among the smoke and din of the cities are craving for a touch of country life—if for nothing more, at least for a garden plot. The various systems of rapid communication which are now being carried out will, when they become general, have the effect of distributing the population over a vast area, and some forms of gardening will by such means be greatly stimulated, and the opening up of outlying districts to suitable markets will also be brought about. There is also one other aspect of the gardeners' life which appeals forcibly to some as the "sands" of the old year "run out." I refer to that trying time when a new charge is being sought for. How dreary are the days waiting for "something to turn up;" and one is forcibly reminded of such matters when scanning columns of advertisements from men seeking to be employed. 'Tis a bitter time which most of us have passed through, and the darkest moments sometimes come just before a bright burst of prosperity. Hope is the guiding star which should help us to look forward, and effort the golden key that unlocks the door which bars our path.

May the year now begun bring glad surprises to every reader of our Journal, and may all who scan its pages, mould its character, or print it so clearly and clean, spend a prosperous and truly happy year.—NIL DESPERANDUM.

NOTES & NOTICES

Royal Horticultural Society.

The first meeting of the committees of the Royal Horticultural Society in 1902 will be held as usual in the Drill Hall, Buckingham Gate, Westminster, on Tuesday, January 14. An election of new Fellows will take place at three o'clock. To prevent misunderstanding, it may be mentioned that the committees of 1901 do not vacate office until the date of the annual meeting, 1902, and in like manner all Fellows' tickets of 1901 are available until the end of January, 1902.

Trees in Kensington Gardens.

"G. R. T." writes to the "Times":—"Lovers of legendary lore will be grieved to hear of the removal of the Glastonbury Thorn from the flower walk in Kensington Gardens (close to the Albert Memorial). I received quite a shock when I found on Christmas Day its place knew it no more. It was old (I knew it over thirty years) and malformed, but it was the Glastonbury Thorn, and the only one I know of in Kensington Gardens. Its place will doubtless be occupied by a more showy tree or flower, but it will be much missed, I am sure, with its old-world traditions, by many."

Kidderminster Gardeners.

The Kidderminster Horticultural Society has, under its present management, grown into one of considerable importance. The membership exceeds 200, and some of the leading horticulturists deliver addresses at the monthly meetings on questions of interest to the members. The officials have recently interested the members of the Free Library Committee in the affairs of the society, and it has been decided to add several books of special value to horticulturists to the Lending and Reference Libraries as well as placing on the tables of the Reading Room horticultural papers for the use of the members. In this way it is hoped to cultivate a deeper love of the study of horticulture among the people, as well as assist the efforts of the officers of the society in the same direction.

Japanese Fern-balls Scarce.

Writing in a Transatlantic contemporary, a correspondent says:—"I send you a couple of photos showing the Japanese at work on Fern-balls. The Davallia roots are getting scarcer. Although there has been no trouble in gathering this year's supply, the stock is sure to become short in a few years. The larger ball, with the tin cup to hold a bunch of flowers, seems to have found favour, judging from the number of orders to hand. As a rule, the Fern-balls are made by the poor people; they come and get the roots and moss balls at our place of business, take them home, and there the whole family go at it in their spare time and make what, for them, is a nice little sum of extra money. When they return the finished balls these are examined by the Japanese banto (foreman), and the price paid to the makers."

The Journal of the Kew Guild.

The "Kew Guild" consists of all who are, or who have at any time, been employed as gardeners or in any position of responsibility in the Royal Gardens, Kew. The Guild publishes annually a Journal containing a list of the Kew staff, from the director to the gardeners, a list of all Old Kewites, with the date of their leaving Kew, and their present positions and addresses, together with other information. So now, on New Year's Day, we receive the Journal for the year just closed. It is full of most interesting notes for those it concerns. The chief feature of the present issue is the memoir of Mr. George Nicholson's life and work, together with a remarkably fine photograph of him. Then the death of Mr. Thomas Meehan, who graduated at Kew in the "forties" of last century, severs one of the few links that connect the Kew Guild with the early years of Sir William Hooker's directorate of Kew. A review of his life, and a portrait of him, appear. Many pages—and undoubtedly the most interesting for Old Kewites—are the notes sent by associates from all parts of the world. Most of the letters are bright and cheerful.

Spraying for Mildew.

To hold this disease in check on Gooseberries, begin spraying just as the buds are breaking, and continue at intervals of from ten days to two weeks until several applications have been made. For spraying use potassium sulphide, 1oz of sulphide to 2gals of water.

Canadian Tinned Fruits.

According to a Toronto despatch in the "Morning Post," the Canadian Packers' Association has determined to adopt active measures to develop the trade in canned fruits and vegetables of Canadian growth and manufacture in Great Britain. Stores for their sale will be opened in the leading centres in England, Scotland, and Ireland, and energetic efforts will be made to bring Canadian canned goods to the attention of British buyers.

Profitable Fruit Growing.

We hail with satisfaction a sixth edition (revised and enlarged) of Mr. John Wright's prize essay on "Profitable Fruit Growing." This work is remarkably clear and safe in its teaching, no point of importance being left unemphasised. We know of instances where fine healthy orchards have been formed, planted, and the trees tended up to a fruitful stage and to general excellence (though the owners were at first quite uninitiated in fruit culture) simply by applying the directions laid down in Mr. Wright's book. A good index is provided. The book runs to 127 pages, and is now published by Messrs. Collingridge, price 1s. His Majesty the King has been graciously pleased to accept a copy of the sixth edition.

A New Chrysanthemum Society.

A meeting of local horticulturists of Kirkcaldy, Fife, and others interested in the cultivation of the favourite winter flower was held in Morrison's Central Rooms on December 26. Mr. David Thomson was called upon to preside, and after a general discussion it was agreed to form a Chrysanthemum Society for Kirkcaldy and district. The society will be known as the Kirkcaldy Chrysanthemum Society, and its chief object will be to encourage the cultivation of the Chrysanthemum and other wintering flowers. It was agreed that an annual show be promoted. The meeting afterwards appointed a special committee for the purpose of framing rules, organising membership, &c., including the preparation of a show prize list, and to submit the result of their labours to a committee meeting to be held early in January.

Twenty-five Years' Service.

On Saturday, December 21, a very enjoyable evening was spent at the Castle Hotel, Exeter, when Mr. F. W. Meyer entertained the employes of Messrs. Robert Veitch and Son at dinner to commemorate the completion of his twenty-fifth year of service as landscape gardener with the firm. After the loyal toasts, Mr. Andrew Hope (manager of the seed department) then proposed the toast of "Robert Veitch and Son." After speaking of the humble origin of the firm, upwards of a century ago, Mr. Hope alluded to the high standing and position R. Veitch and Son have since attained in the horticultural world. In the absence of Mr. Peter Veitch, the present head of the firm, the acknowledgment of this toast fell to Mr. W. Mackay, who for the past thirty years has held the responsible position of manager. The next event on the programme was the toast of "The Host, Mr. F. W. Meyer." This was proposed by Mr. W. Mackay, who, after eulogising Mr. Meyer's abilities as a landscape gardener, spoke in high terms of the cordial feeling and amiability that had always existed between him and the employes. Advantage was also taken of this toast to present Mr. Meyer with a smoker's cabinet and a case of Peterson's pipes, together with an illuminated address, subscribed for by his fellow colleagues, as a token of the high esteem in which he is held by one and all of them. Mr. Meyer was also the recipient, from Messrs. R. Veitch and Son, of a cheque, accompanied by a solid silver salver, inscribed as follows:—"Presented to Mr. F. W. Meyer by Robert Veitch and Son in commemoration of his twenty-five years' service with the firm as a mark of esteem and appreciation of his success as a landscape gardener and his devotion to his profession." Mr. Meyer, in a few well-chosen words, acknowledged the toast, and wondered what he had done to deserve such an ovation and such handsome presents. After the toast of "The Employes," which was given by Mr. Percy Meyer (a former employe), and replied to by Mr. E. W. Milne, had been drunk, the remainder of the evening was spent in songs and other forms of music.

Flowers Late, in Scilly.

Few, if any, flowers have as yet been exported from Scilly. The weather in the islands has been unusually severe, and as a result the bulbs planted in the open are very backward. Some of the farmers, however, hope to begin sending flowers to the mainland in about a week's time.

Mr. Molyneux's Chrysanthemum Analysis.

Many inquiries have been made as to when Mr. E. Molyneux's useful analysis will appear. We are able to promise that this annual contribution to the Journal will be forthcoming immediately. It would be of benefit to us, and to everyone in connection, if readers would kindly announce the fact to their Chrysanthemum-growing friends.

Messrs. Protheroe and Morris's Register.

Those who are on the outlook for businesses in the nursery line, or as market gardeners, farmers, florists, seedsmen, or for a partnership, should secure a copy of Messrs. Protheroe and Morris's Register for January, 1902. This contains a large selection of all sorts of business in the horticultural line, with particulars about them. Application may be made to Messrs. Protheroe and Morris, horticultural and general auctioneers, 67 and 68, Cheapside, London, E.C.

Shirley Gardeners' at Dinner.

The annual gathering of the committee and friends of the Shirley Horticultural Society took place at the Shirley Hotel on Friday evening, the 20th ult., under the presidency of Andrew Barlow, Esq. Mr. G. Payne occupied the vice-chair. Amongst the company present were Major Douglas, R.E., H. Cawte, Esq., Messrs. Cox, Brown, Graee, Mitchell, Ladhams, Flux, J. Miles (secretary), Ransom, Mashall, Avery, and J. Jones. The President expressed his regret at the absence of the Mayor and ex-Mayor of Southampton, whom he had hoped would have been present. The toast list of the evening was "The King and Royal Family," given from the chair, "Absent Friends," "The President," "Visiting Friends," &c. A capital programme of music and songs were gone through, and a very pleasant evening was terminated by singing "Auld Lang Syne" and the National Anthem.—J. M.

Mr. Godfrey and his American Confrères.

An article written by Mr. W. J. Godfrey, the noted Chrysanthemum grower of the South, in one of our home papers, has irritated some American trade growers. One of these, named Mr. Charles H. Totty, after criticising Mr. Godfrey's remarks about certain varieties, continues (in "The Florists' Exchange"): "It would be a revelation to an English exhibitor to walk into a first-class show here and note the difference between the two methods of exhibiting. He would see more beautiful effects produced, by arranging the flowers cut with 5ft to 6ft stems in suitable vases, than he had ever dreamed of in the deadly monotony of his green board philosophy. Mr. Godfrey further remarks that not one in twenty of the American varieties are worth cataloguing. If he can get any such an average as one good variety out of twenty imported he is doing well. I have seen and grown in the past eight years many hundreds of French and English sorts, and the average of really fine varieties they produce with us is about one in fifty. We do not, however, so much blame the raisers of the varieties as the different climatic conditions—a point Mr. Godfrey seems to ignore. Many of their finest exhibition varieties are useless here. Any Chrysanthemum that is the least bit weak on petalage is certain to show a large eye, possibly, I suppose, because we get more sunlight here in October. On the other hand, our best all-round white, Mrs. Henry Robinson, is generally passed over in English catalogues with the remark: 'Good for bush plants,' or something to that effect. We are content to take any variety from any country and test it fairly and without prejudice; while I am afraid that too often our British cousins, in their conservatism, as they call it, but which methinks deserves a stronger term, say 'insular prejudice,' look askance at American productions, and ask, with the Jews of old, 'Can any good thing come out of Nazareth?' Our standard of excellence, forsooth! While the Englishman sits down and talks about his standard of excellence, the Yankee has passed him in every single line of business (sic), let alone horticulture; and we, to whom the old country holds many tender ties of birth and training, blush to say it." Yes, cousin, we suspect you *do* blush.

Plough Monday.

The first Monday after Twelfth Day was Plough Day by our forefathers, because on it they returned to tilling their soil.

The Late Mr. J. H. Krelage.

We have received a splendid likeness of the late famous Dutch horticulturist, and this kind letter:—"Mrs. J. H. Krelage and Mr. Ernst H. Krelage beg to return their sincere thanks for your kind expression of sympathy in your columns, and they ask your acceptance of the enclosed portrait of their late husband and father.—Haarlem, December 24, 1901."

Trade Note.

The name of the old nursery firm of Thomas Meehan and Sons will not be changed (reports an American newspaper), arrangements having been completed for the carrying on of the business just as before by the surviving partners, the three sons of the late Mr. Meehan, viz., Thomas B. Meehan, J. Franklin Meehan, and S. Mendelson Meehan, who now assume the whole business.

Gooseberries in America.

These are slowly growing in favour in America, but are not appreciated as they are in England, where they may be considered the national fruit. English varieties in America (says the "American Agriculturist") are very much subject to mildew, and cannot be grown without careful and thorough spraying with potassium sulphide. The American varieties, which are hardier, are generally too small, although some of the newer sorts are as large as the English. They do better planted in partial shade.

Dr. Somerville's Promotion.

Dr. William Somerville, M.A., late Professor of Agriculture at the University of Cambridge, has been appointed Assistant-Secretary to the Board of Agriculture, in room of Sir Jacob Wilson, who retired at the end of 1901. Dr. Somerville's appointment must give unqualified satisfaction to all who are interested in our country's agricultural welfare. He is one of the most persistent workers of the present day. His rise has been rapid. He is famous and esteemed in Edinburgh, Durham, and all over the North. As an author of useful papers and books he is reputed, and has done much for agricultural science in his time.

Weather in S. Perthshire.

Throughout the week ending the 23rd ult. variable weather, with alternations of frost and partial thaw, has prevailed. Frost ranging from 5deg to 14deg has been registered every morning, and snow has fallen heavily in many parts of the country. Throughout Monday snow fell constantly for the greater part of the day; in the evening thaw seemed impending. The past fortnight has been one of alternating frost and thaw. Generally frosty weather has prevailed, but at no time has the frost reached more than 14deg. Snow fell heavily over the country during the 28th ult., but gradually disappeared during Sunday and Monday, during which latter day rain fell almost continuously.—B. D., S. Perthshire.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1901. December.										
Sunday ...22	N.E.	deg. 33.0	deg. 31.4	deg. 36.5	deg. 28.2	Ins. —	deg. 35.7	deg. 40.2	deg. 45.1	deg. 27.3
Monday ...23	S.E.	26.5	25.6	42.7	25.7	0.22	35.5	40.0	45.0	24.4
Tuesday ...24	S.W.	38.7	36.8	43.1	26.0	0.63	35.6	39.8	44.8	25.1
Wednesday 25	W.S.W.	33.9	33.5	40.6	30.8	0.03	36.1	39.5	44.5	23.1
Thursday 26	W.S.W.	34.5	33.7	41.6	33.2	—	36.1	39.7	44.3	26.3
Friday ...27	W.S.W.	34.3	32.3	39.7	27.9	0.05	35.7	39.7	44.2	20.4
Saturday 28	S.E.	39.4	38.6	44.1	25.3	0.35	35.4	39.5	44.0	19.1
MEANS ...		34.3	33.1	41.2	28.2	Total. 1.28	35.7	39.8	44.6	23.7

The temperature remains much about the same as last week, with cold winds, slight snow showers, and rain on five days.

Figs Under Glass.

The pot trees started in November or beginning of December should now have the temperature increased to 60deg at night, and 65deg by day, 70deg to 75deg with sun heat, and if the temperature rise to 80deg or 85deg it will be an advantage, provided it is due to sun heat. Avoid, however, a high temperature by artificial means, for it tends to attenuate and weaken the growths, and this is unfavourable to the first and second crops of fruit. The sturdier and shorter jointed the young shoots can be kept the greater will be the chances of a satisfactory early crop. Syringe the house and trees in the morning, and again at closing time, in bright weather; but when dull, sprinkle the floor, pit sides, and walls, as a saturated atmosphere as such times is unfavourable to a sturdy, fruitful habit. As the fermenting material settles firmly about the pots add more fresh leaves, bringing them nearer to the rims, taking care that the heat about the pots does not exceed 70deg to 75deg. Water the trees as required with liquid manure, always before the soil

further accelerated and growth sustained, both in the wood and fruit, by sprinkling on each square yard every fortnight or three weeks a good handful of the following mixture:—Bone superphosphate, dry and crumbling, four parts; powdered saltpetre, two parts; ground gypsum, one part; mix and keep dry. The surfaces of the house and trees will require an occasional syringing, but avoid damping the trees in very dull weather; yet maintain a genial atmosphere by sprinkling the paths and borders when their surfaces become dry. Maintain a night temperature of 50deg, 55deg from fire heat by day, and from 60deg to 65deg with sun heat, ventilating freely from that temperature and losing no opportunity of effecting a change of air daily.—GROWER.

Rock Garden and Water Pool.

Water, how enlivening it is! Present in any form, either still water, or in rippling streamlets, noisy brooks, miniature



A SCENIC EFFECT: ROCKERY, ALPINE PLANTS, AND WATERPOOL.

becomes dry. Neglect of water for once only will cause the entire collapse of the first crop.

Place some turves, about 2in thick, grass side downwards, and extending 2in over and inside the rim of the pots, filling the circular dish with rich compost. Sprinkle a little of a mixture of three parts superphosphate of lime, two parts powdered nitrate of potash, and one part ground gypsum on the turves, and surface dress occasionally, watering the turves with liquid manure so as to keep them moist. Stop the growth at the fifth leaf, especially if it is necessary for inducing a bushy habit, but avoid crowding the trees with growths and foliage that cannot receive plenty of light.

For May Fruiting.

The house containing the planted-out trees for this purpose must be started without delay. The border will need thoroughly moistening through, after which the surface may be covered with about 2in thickness of short, sweetened, lumpy manure. The roots will extend from the collar into this, especially if the mulch be rather thicker there; and if the border be narrow and shallow some turfy loam and old mortar rubbish may be mixed with the manure. This will favour surface rooting, and it will be still

cataracts, or the gentle glide of quiet rivers, that flow on and on, ever and ever—how inexpressibly beautiful and eternally interesting water is in these forms! No garden, not even the tiniest, should lack the elements of a land or rock, and water scene. See what can be done in such a garden as Mr. Arnott's. The illustration on this page shows rocks, plants, and a pool of water, yet how very full of interest it is! One could spend the whole long hours of a summer's day studying such a composition and the subjects of which it is formed. What a great deal there is "to take in," to look at, study, enjoy, and ponder over. And surely a garden exists just to provide this mental quality of recreation—it serves one of its highest purposes if it does so.

Mr. Arnott writes regarding this portion of his garden at Carsethorn, near Dumfries:—"Nymphaeas are among my most recent favourites, and I grow a few in small tanks and tubs. In the right-hand corner of the illustration, which represents a portion of a rockery for Alpine plants, is a corner of a little pool for *Nymphaea chromatella*. The largest of the Water Lily pools, itself a miniature one, has been figured in another journal. I have a keen love for these new Water Lilies, which are destined to take a high place in the gardens of the future when people become aware how easily they can be grown without a continuous flow of water."

Of course, if a gentle movement of the water can be ensured the Lilies are the more likely to be perfectly healthy; but Mr. Arnott's hint should be accepted. The illustration may serve as a good guide to many of our friends who are busy altering the plan of their gardens, and direct them how they should plan and plant.

Literature.

The Woodlands Orchids.*

The collection of Orchids possessed by Mr. Measures in his garden at The Woodlands, Streatham, London, is one renowned in the annals of Orchidology. Perhaps no finer assortment of Cypripediums is to be discovered anywhere in this, or any other country. The owner's enticement to Orchidology first began by the purchase of a Cypripedium—*C. barbatum*—at an auction sale. The Woodlands collection has slowly grown since that auspicious day, until now a big book, bearing the title we give above, has come to be written.

But the book is not entirely devoted to describing the Woodlands Orchids. That would be a "dry" book, surely. It is a record of various highly interesting and frequently sensational adventures experienced by Orchid-collectors in earlier days, when many of the lovely species that our younger growers look upon as old friends, had only been heard of bestirring in rumour.

The book is a most fascinating one, and we have read each chapter with quickened interest. What delightful insights Mr. Boyle gives of Roezl's wondrous explorations and accomplishments—a collector whose name can never slip from memory. Many other successful and intrepid collectors' names are here, with stories describing the search for reputed new gems, or for "Lost Orchids" of known excellence, whose reintroduction was longingly awaited. *Cattleya labiata* furnishes perhaps the most surprising instance on record where such a charmingly beautiful flowering plant, having been brought from its native habitat and grown till 1818, was lost from our gardens for seventy-one years. After vigilant and undaunted searching over many years, the professional collectors were baffled to find it. An insect-hunter re-discovered it. Mr. Boyle writes condemning the ruthless extermination of Orchids in certain localities. It is commonly known, of course, that certain species affect very limited areas, and are only discovered growing under conditions peculiar to themselves. Thus *Cypripedium Spicerianum* had to be patiently searched for by Fostermann, one of Messrs. Sanders' agents, "wading thigh-deep, hour after hour, day after day," along the waters of "those steaming clefts which fall from the mountains of Bhutan. After wading all the forenoon up a torrent which had not yet lost its highland chill, Fostermann reached a glade, encircled by rocks steep as a wall—so steep that he had to fashion rakes of Bamboo wherewith to drag down the masses of Orchid which clung to them. It was *Cypripedium Spicerianum*!" Again, in the open, upland savannahs of Costa Rica, Oversluys, another Sanderian Collector, by a lucky incident, was brought into contact with the bright-flowered *Oncidium splendidum*. He had often seen the flower previously and admired it, but his mind was on Orchids, and who could have expected to find an *Oncidium* buried among herbage in the open ground?

We cannot attempt to review a book of this nature in detail. It is valuable as securing to the world at large and orchidists in particular, for all time, a most enchanting symposium of stories, narrating the adventures of a large number of collectors, many of whom had been specially commissioned from England to go into savage tropical lands, mostly very little known, in search of one particular Orchid, famous for the time being. The people of these lands (the Straits Settlements, West Africa, Central America) are discursively noticed, and notes of some of their quaint customs, ceremonies, and of their leading personages are furnished. Mr. Boyle acknowledges his indebtedness to the Editors of a number of the London newspapers and magazines for permission granted to use writings that he to them had contributed.

The careful reader who is also a grower of Orchids will find a great deal of matter that will give him good guidance in his cultural practices. And to the hybridist the lists of hybrid varieties that with their parentage are given, and the admirable index finishing the book, will be of real service and an admirable beginning for anyone who contemplates compiling an "international catalogue" of these productions. The peculiarities of colour and form in such of the Woodlands hybrid Orchids as seemed most curious to the author, are described in the book. We count sixteen full-page coloured plates, comprising Cypripediums, Cattleyas, *Lælio-Cattleyas*, *Lycaste*, *Zygo-Colax* x *Woodlandsense*, and other selections, lithographed by Mr. J. L. Macfarlane,

F.R.H.S. The book is sure to create widespread interest in Orchidology, and should be the means of winning many new recruits to the ranks.

Vinton's Agricultural Almanac, 1902.

This "Almanac" is a bulky book, be it noted, extending to 124 closely-printed pages, and these are, of course, stored with all the most useful facts that concern the home farmer, or larger agriculturist, throughout the year. Information of the fairs, markets, agricultural societies, and imports and exports is fully provided. The fore part of the "Almanac" is devoted to articles of general interest of a nature that should tend to set farmers a-thinking and improving in various directions. The letter from Mr. Willam E. Bear, discussing whether agricultural competition is increasing, will be read with keen interest. Poultry, cows, horses, sheep, cattle, pigs, and crops each and all receive attention. The "Almanac" is published at the "Agricultural Gazette" Office, Vinton and Co., Limited, Ludgate Circus, London, and at all railway bookstalls, price 6d.

Raising Early Melons.

To have Melons ripe at the end of April or early in May sow seed at once. Most every grower has his particular favourite seedling. Those who have not will find the following satisfactory:—Scarlet-fleshed, Beauty of Syon and Gunton Orange; green-fleshed, Hero of Isleworth and Middlesex Hero; white-fleshed, The Countess and Longleat Perfection. It is only possible to have fruit ripe at the time named in well-heated structures and in favourable weather.

The seeds may either be sown singly in 3in pots, or a dozen or more be placed round the edge of a 6in pot, to be afterwards shifted to 3in pots. In the first case, the pots should only be about half-filled with soil, covering the seed about half an inch deep, plunging the pots in a bottom heat of 80deg, and covering each with a pane of glass, which must be removed as soon as the plants appear. In the other case, the pots should be three-parts filled with soil, covering the seeds with fine soil and a square of glass until the seedlings appear. Two parts good fibrous loam and one part leaf soil, mixed, and neither too wet nor too dry, but moderately moist, forms a good medium for germination and for ramification by the young rootlets.

It is important that the soil be sweet and fine, and the pots efficiently drained; but one crock over the aperture and the rough parts of the compost answer as drainage for the smaller pots. Drawing the plants up weakly must be avoided by keeping them near the glass. For this reason some growers dispense with bottom heat, and raise the plants on shelves near the glass in a house with a suitable temperature and due amount of atmospheric moisture, such as a Cucumber house or other structure, with a temperature of 65deg to 70deg at night, and 70deg to 75deg by day, with a rise to 80deg, 85deg, or 90deg from sun heat.—G. A.

"Saynor's" Prunings.

Yes, the cuts are clean, made by a practised hand, and the operator is geniality itself, as he smiles at each branch lopped off. (See page 529, last vol.) I think I remember a "Saynor" in the old days, I think I have seen the "glint" of his keen-edged blade before in the literary arena. I cannot, however, agree with him that Duc Van Thol Tulips are not as a rule the best for providing flowers at Christmas. The gardener who has an abundant supply of them has reason to be thankful. I have never yet seen them "go a-begging" at that season, either in a private garden or nursery.

The Duc Van Thols may be forced into flower by Christmas with more certainty than any other type. Pottebakkers, Yellow Prince, and even La Reine not excepted. They come in splendidly for January, but attempt to drive them a bit too hard to get them by Christmas and you will often get plenty of blanks. I hope to have thousands in flower by the second week in January, but I am satisfied to get plenty of "Ducs" for Christmas. It would be useless for me to run to the local nurseryman for the longer stemmed kinds, because he, too, believes in the "Ducs." If we could afford to buy "retarded bulbs" we might, perhaps, soar a bit higher at Christmas. The compliments of the season to you, "Saynor," wherever you are and wherever you hail from.—PLANTSMAN.

* "The Woodlands Orchids," by Frederick Boyle. London: Macmillan & Co., Ltd., 1901. Price 21s. net.

Certificated Plants.

In taking up the dropped threads of the record of certificated plants—after a long interval in respect of which I offer my apologies to the editor—I have to deal with the numerous body of Lilies which have received awards from the Royal Horticultural Society during the past half century.

Lilies.

It is a remarkable fact that during the eight years the National Floricultural Society was in existence Lilies were produced at its meetings only during the last two years of its operation, and they appeared to be forms of *L. speciosum*. With the introduction of *L. auratum*, by Messrs. Veitch and Sons, in 1862, which was awarded a Silver Knightian Medal when first exhibited, the interest in this stately flower became greatly stimulated. *L. neilgherrense* was exhibited by the same exhibitors in the year following, and obtained a Second Class Certificate. This was followed by *L. nigrum* (probably a doubtful species) (S.C.C.), from Messrs. Backhouse and Son, in 1865; by *L. auratum splendidum* in 1866, which was awarded a First Class Certificate in 1866 when shown by Messrs. Cutbush and Son; and the same award was made to *L. Thunbergianum* var. when shown by Mr. G. F. Wilson in 1867.

By 1872 some varieties of *L. auratum*, with *L. californicum*, *L. canadense flavum*, *L. Leichtlini*, *L. longiflorum albo-marginatum*, *L. Thomsonianum*, *L. Wilsoni*, and two varieties *L. tigrinum*, viz., *flore-pleno* and *splendens*, had also received awards. Some of these, no doubt, have gone the way of other plants, and become lost to cultivation. By 1884 a considerable number had been recognised by the Floral Committee (R.H.S.). Among them, forms of *L. Thunbergianum*, *L. Hansoni*, *L. Humboldti*, *L. martagon dalmaticum*, *L. pardalinum Robinsoni*, forms of *L. speciosum*, *L. Szovitzianum pallidum*, *L. Wallacei*, and *L. Washingtonianum* were the best known among them. A good share of the honours bestowed on new forms fell to the lot of Mr. G. F. Wilson, who during the seventies was very active as an exhibitor. During the three years following, *L. auratum rubro-vittatum* and *L. Parryi* were the only two certificated. The last named is considered to be one of the most distinct and beautiful of all the Lilies, and dispenses a powerful perfume like that of *L. auratum*.

Since 1887 such fine forms as *L. Bolanderi*, *L. concolor*, *L. Dalhansoni*, a hybrid between *L. dalmaticum* and *L. Hansoni*; *L. Henryi*, *L. japonicum Alexandræ*, and *L. jap. Colchesteri*, *L. Marhan*, a hybrid between *L. martagon album* and *L. Hansoni*; *L. martagon album*, *L. nepalense*, *L. pardalinum luteum*, *L. rubellum*, *L. speciosum album novum*, and *L. Wallichianum*, have all gained honours. Since the publication of the list under notice Messrs. Wallace and Co., of Colchester (who had already received awards for several novelties), have introduced others, and the Lily Conference, held in the Royal Horticultural Society's Gardens last year, helped greatly to classify the Lilies on a scientific basis, which was much needed to abate the confusion which had existed up to that time.

Lobelias.

Two groups of the Lobelia can be classed as popular garden plants—the dwarf, compact bedding forms of *L. erinus* and the varieties of *L. cardinalis* and *L. fulgens*. By comparing the tall and loose-habited *L. erinus* with the latest selection of the *L. erinus pumila* section, some idea may be formed of the good work accomplished by means of careful selection. Several awards were made to varieties, especially during the sixties and seventies, for the bedding-out fever raged furiously then, and the dwarf Lobelia was in great demand as an edging plant and as a front line to ribbon borders. It is much employed still, but the advance made upon the best of the dwarf bedding types of late years is so slight that new varieties are few and far between. In addition to the blue, white as found in the blossoms of Snowflake, purple in Carter's Prima Donna, and an approach to carmine in the Kermesina of the same firm attest to the fact that colours other than blue are in demand.

Both *L. cardinalis* and *L. fulgens* have appeared in striking varieties of diverse shades of colour, though for bedding purposes the scarlet and crimson varieties take the lead. We see them in our public parks during summer and autumn, and always in attractive character and pleasing combinations. There are forms of *L. fulgens* with leaves

approaching crimson in colour, and thus the usefulness of their service as bedding plants is enhanced. It is possible to imagine what a brilliant spectacle is presented to view in the early autumn months among the swamps, ditches, and low grounds throughout the Northern States of America when this species is seen throwing up its brilliant and showy plumes. A form of the slender-growing *L. tenuior*—a greenhouse herbaceous perennial—received an Award of Merit a few years ago under the name of *grandiflora*. The species is, however, very rarely met with.

Lunaria, Lupines, and Lychnis.

The old Honesty (*Lunaria biennis*) came to the fore some ten years ago, an Award of Merit having been made to a plant of the old red form having variegated foliage. It is a plant well deserving a wider culture than is given to it. The Honesty is a hardy biennial of great value for its freedom of bloom in spring, when it forms dense pyramids; and it is of decorative value after the plant has perished in the transparent silvery sheaths of its seed pods, as they are preserved, and are found useful in winter decorations and for exhibiting with autumn foliage and berries.

Time was when the annual varieties of Lupins were among the most popular of hardy annuals, and when the late Mr. W. H. Dunnett raised several varieties at Dedham from *L. mutabilis* and *L. subcarnosus*. But they are too fugacious to be of much value in the garden. The well-known dwarf-growing *L. nanus* is one of the very best for garden work. The Tree Lupine, *L. arboreus*, is occasionally met with in old-fashioned gardens, and two years ago Mr. B. Ladhams received an award of merit for a pleasing white variety known as Snow Queen. The herbaceous forms of *L. polyphyllus* are invaluable border plants in late spring, though no variety has gained an award of late years.

Lychnis Senno (syn. *Sieboldi*) from which so much was expected when first shown by the late Mr. John Standish, in 1863, and awarded a Silver Banksian Medal by the R.H.S., quite failed to realise the expectations formed of it. It was introduced by Mr. Robert Fortune from Japan, where it is a common garden plant, and was figured in "The Florist" for April 1863. A scarlet self-flower, and a charming rose and white striped variety were represented, and it was predicted that the latter would have a long run of popularity. It is worth cultivating under its present name of *L. Sieboldi* as a handsome border flower.

Mathiola (Stock).

New varieties of Stocks increase much less rapidly than Asters, and yet they are among the most prized of our early and late summer flowers. The first to receive an award was an Intermediate named Mauve Queen, shown by Mr. G. Smith in 1871, but it appears to have become lost. In the following year that most beautiful of all the summer pyramidal Stocks, Mauve Beauty (Dean) was similarly honoured; and in the following year Giant White Bromston (Dean), represented by a double form of high quality, which there is reason to fear has become very scarce. In 1879 followed Todds' Crimson East Lothian Intermediate, which is still grown; Veitch's Ten-week Snowflake in 1886; and Sutton's White Forcing Ten-week in 1896. To-day several fine novelties in Ten-week Stocks challenge attention. Princess Alice and an improved form named Grace Darling among whites; Princess May, yellow; and Navy Blue among shade of violet. In Lancashire a very fine crimson Intermediate is grown under the name of John Bright, and the local growers say that all the single-flowered plants should be grown a second year, as by that means a more double progeny is secured from seeds, a well-authenticated fact which doubtless applies to other Stocks as well. Among biennial Stocks Benary's Empress Elizabeth, of a shining bright carmine colour, is well worthy of cultivation, being new and distinct with a large proportion of double flowers. —R. DEAN, V.M.H.

Cassell's Dictionary of Gardening.

Part VIII. (price 7d. net) is issued. A coloured plate of Tree Pæonias is provided with this part, which extends from *Eurycoma*—a small genus, of which *longifolia*, an evergreen shrub, alone is worthy of a place in gardens—to Grapes, the culture of Grape Vines being here undertaken.

Plum, Rivers' Monarch.

The fruitfulness and high merits of this variety are recognised by nearly all who have, for any length of time, cultivated the variety of Plum figured on page 13. Rivers' Monarch—or Monarch, as it is perhaps now more generally designated—was raised from a stone of Cooper's Large Red, generally known in this country as "La Delicieuse" or "Lady Lucy" of some of the Kentish fruit growers, and said by Downing to be raised by Mr. Joseph Cooper, of New Jersey, from a stone of the Orleans. The fruit of the Monarch is very large, dark purplish-blue in colour, and roundish-oval in shape. The firm flesh is of very excellent quality. Some splendid fruiting trees of the Monarch are proudly shown by the superintendent of the Royal Horticultural Society's Gardens at Chiswick.

The young shoots are downy, but the downiness disappears as the wood grows older. The growth of the tree is very robust, forming a vigorous natural pyramid, and producing fruit-spurs in abundance at an early stage. In southern counties the fruit ripens about September 25, and is quite free from any tendency to crack. As a cordon on walls it produces very fine specimens, and as a standard or pyramid it makes a very prolific tree.

Bulbs in Grass.

SNOWDROPS—CROCUSES—DAFFODILS—FRITILLARIAS—ALLIUMS—
ORNITHOGALUMS—ERANTHIS—IRIS—TULIPS AND SQUILLS.

Amid all the beauty of our gardens, we have nothing which can compare with the loveliness of great masses of bulbous plants on the grass. Most country dwellers are familiar with the beautiful effects produced by a sea of the Bluebell (*Scilla nutans*) as it stretches away through the meadow and woodland, shading insensibly from the deep blue of the nearer flowers to the silvery haze which tells of the far away plants. There is equal beauty in the sight given by millions of Snowdrops spreading in great sheets under the trees or in the open grass by some old mansion, where for generations these chaste flowers have been left to increase and multiply. Here they are thick and close together; there, a stray seedling or two have given birth to a small colony a little away. They are in no formal groups; but seem as if they grew where they preferred to show their beauties. These flowers are lessons for our planting others of a similar nature in the same kind of place.

If we look at Daffodils planted in the same apparently undesigned, but, in reality, skilful way, we shall soon see how much prettier and less likely to weary us these are than where they have been arranged in rows or in stiff and regular clumps. This growing custom of planting bulbs in grass is one of the most hopeful signs of the gardening of the present day, and one, too, which is certain to increase the favour in which they are held. It is to be hoped, however, that people will not rush to the opposite extreme, and plant in grass and in wild gardens bulbs which are quite unsuitable for the purpose. Because the bold, sturdy Dutch Crocus, or such species as *C. speciosus*, one of our best autumn kinds, will thrive well with certain precautions, that is no evidence that we shall succeed with the more delicate, rarer species of smaller and less vigorous growth. There are, however, enough and to spare of bulbous plants which will look delightful in the grass, and will grow with perfect success.

Beginning with the Snowdrop, we follow with the Crocus of the larger and bolder forms, practically all the Scillas, the Daffodils, many of these thriving better on the turf than in the border; the Fritillaria, most at home in a somewhat damp meadow; the spring and summer Snowflakes; the more sturdy Tulips; some of the Alliums; such pendent species as *triquetrum* being very beautiful on grass. Then we have the Ornithogalums, *Agapanthus Mooreanus*, quite hardy; the Apennine and nemorosa groups of *Anemone*, very charming in their season; the more robust *Liliums*; the Daffodils, as a rule healthier on grass than in the border; the *Antholyza*, which one hardly ever sees in such conditions; the stronger *Brodiaëas*; the *Colchicums* or Meadow Saffrons, which almost require the support of the grass; *Fritillaria imperialis*, the Crown Imperial, a noble plant in bold groups in grass; the stronger *Erythroniums*, none being better or prettier on grass than *E. dens-canis*, the common Dog's-tooth Violet; the *Erantis*, and the *Iris* in its more

vigorous forms. We have also the *Asphodeluses*, the *Eucomises*, the Tulips, though these, unfortunately, are not so permanent as we should like everywhere; *Galtonia candicans*, noble in a large group; the *Montbretia*; the *Muscari*; the stronger *Pæonias*, such as *officinalis* and its varieties. These, and a few more, give us ample choice, and will give much satisfaction if treated aright.

Many of the failures in growing bulbous plants in grass arise entirely from want of due care in first planting, and in failing to give the bulbs the treatment they severally need. The main cause of failure is that of planting them on the lawn, or on grass which must be cut before the leaves of the plants have fulfilled their purpose. They should never be cut before they have become yellow, as not until then have they stored in the bulb the nourishment required for the following year. However untidy the grass may look from the presence of these leaves, it is necessary that they should not be taken off. Some tie these leaves into a sheaf-like bunch, but they look even worse than when in their natural state, and the leaves do not receive the light and air they ought to have. It is not difficult to contrive so that the bulbs may be planted where they will not interfere with the cutting of grass in the most conspicuous places.

Another frequent cause of loss is the hard, poor character of the soil beneath the grass on some lawns. These are frequently heavily rolled, and the earth thus becomes quite hard and solid, so that the bulbs have not a free root-run, nor have they sufficient nourishment on account of the impoverished character of the soil. Frequently, also, they are merely dibbled into the exhausted ground and left to take their chances. A piece of the turf should be removed, and the soil below properly loosened and manured, if poor, before the bulbs are planted, when the displaced turf may be returned to its former position. With these precautions, it is possible to have a small grass patch or a broad expanse of well-kept grass made gay. Of course, it is desirable that the bulbs should be planted in bold groups, so that they may be out of the way, as far as possible, of the mowing machine or the scythe.

The difficulties of growing bulbs in the less carefully kept places in the grounds are much smaller than on the lawn or dressed parts. Thus it is in these semi-wild places that the bulb in the grass will give the greatest satisfaction. There each species can better receive the treatment it requires or prefers. There it is easy to prepare a station of special soil, so as to minister to the needs of the plant without requiring to study the effect of the soil on the grass, as would be the case on the lawn; there more picturesque effects can be studied, and lovely features introduced. In making these plantings we should do them with no grudging hand; but plant with generous hand, and taking advantage where we can of the lessons to be drawn from the haunts of the wild flowers. An ingenious way of arranging the bulbs has been by means of throwing the bulbs down in the place where they were to grow, and then planting them in much the same grouping as they assumed on the ground. Here would be a dense group; there a scattered one; and here and there would be stray plants. It is impossible, however, to lay down any definite rules for planting in grass. The arrangements must, however, be based on broad lines of general effect, not on finicking or formal plans. Nature must be the guide. Now, too, growers can buy "clearing-off" batches of bulbs at a reduction of 50 per cent. in price. The advertisement pages may be observed for these offers.—S. ARNOTT.

The Common Bracken.

Writing to an agricultural contemporary, a correspondent, in answer to an inquiry for Bracken seed, intimates that the seed or spores are found on the back of some of the fronds, and are mature in the months of August and September, or earlier. The method he has found answer is to examine the indusium with a magnifying glass, when, if the spores are ripe, this covering is rolled back to permit their escape. A portion of the fertile frond should be shaken into an envelope, and the fine brown powder, the spores, sown on a still day. As, however, it is now too late for *Pteris aquilina* to be found in fruit, the fronds having withered away, he advises portions of the rhizomes to be cut at once, and pegged out in good leaf mould, when the roots will soon take hold. A luxuriant growth of this handsome Fern will thus be obtained in much less time than by raising plants from spores.



PLUM, RIVERS' MONARCH.

Gadding and Gathering.

"HERE AWA', THERE AWA'."

Besides their long-established nursery at Rothesay, on the beautiful Isle of Bute, the Messrs. Dobbie and Co. have had seed grounds at Orpington, in Kent, for fully seven years past. Anyone running down to Tunbridge Wells on the S.E. and C. Railway may see this nursery, with its area of sixty acres. The land is rich and fertile from the careful cultivation it has lately received, though the depth of brownish-red surface strata is only about 18in in some parts: below this lies the chalk formation.

I had the privilege of a visit to Orpington early in October, 1901, just at a time when the weather was dry and agreeable, and the season's seed harvest was being gleaned. Mr. A. Ireland has had control of these seed grounds during the Dobbies' occupancy. He is a conscientious foreman, a great man for work, and most agreeable and pleasant as a companion. I am sure the visitor to the grounds will always be satisfied under his chaperonage.

Seed-harvesting.

When the crops of vegetable and flower seeds are ripe they are at once harvested, and in the case of Onions, Parsley, Parsnips, and Carrots; or Marigolds, Zinnias, *Tropæolums* (*Nasturtiums*), and other genera, the trusses are spread out on mats in glass houses. Here they remain for a longer or shorter period till they are thoroughly ready to be shaken out from their variously constituted seed vessels. Particular care is exercised to keep all kinds strictly by themselves, so that no mixing may occur. The third step is that of cleaning and assorting the seeds by means of a cleaning machine, in this case worked by turning a handle, which process instigates to action several fanners situated within. The roughly cleaned seeds are filled into a funnel, just as coffee beans are into a grinding machine, and the fanners blow off the "chaff" and coverings from amongst the seeds. By a patent process the seeds are assorted according to their sizes. The cleaning operation may have to be again performed, till finally the qualities are properly graduated and perfectly free and clean. Then they are placed in bulk, in sacks, and sent to Rothesay, from whence the orders are executed.

The harvesting of the seeds is but the final act in a series that all have for the aim—PERFECTION—perfection of the final product. Only the finest and fittest plants are chosen from the seed pans, only the sturdiest are planted out, and only the best developed and strongest are left to mature seeds. During the flowering season the plantations are subjected to a rigorous weeding out—"rogueing," as we term it—so that there can be no mistake as to what quality of stock will perpetuate the special variety. Zinnias, as I have already stated, are cultivated with great exactness, for the firm has a fame for these, as well as Verbenas, Asters, Sweet Peas, Long-spurred *Aquilegias*, *Campanulas*, *Pentstemons*, Marigolds, annual Larkspurs, *Celosias*, and *Antirrhinums*, amongst flowers. The pale-coloured *Pentstemons* are much the more popular amongst growers at the present time; the shades of pink, rose, rose-mauve, heliotrope, and lavender are, therefore, receiving considerable attention. The three distinct colours in *Antirrhinums* represented in the varieties named *Crimson King*, *White Queen*, and *Yellow Queen*, will suit everybody's taste and purpose, and the habit and other characteristics of the plants themselves embody the acme of perfection. The striped varieties were also well represented. That *Tropæolum* (or *Nasturtium*, as they are incorrectly named) called Dobbie's *Crimson* is a marvel of brilliance; but what are finer for a pure blaze of colour than a selection of these dwarf Tom Thumb *Tropæolums* when grown in wide-spreading beds? The Messrs. Dobbie have also a spotless white annual *Delphinium*, a sport from "Blue Butterfly." Those who grow or know the latter beautiful border subject will be able to form an idea of the value of this latest addition. For a year or two, however, very little will likely be heard of the white, for there is but one plant in existence.

Pumpkins, and Squashes.

The Gourds are likely to come into very great prominence within the next few years. Various firms are making them a special feature of their nurseries, and in their catalogues. I have written of them elsewhere, and will only state in this place that Messrs. Dobbie grow forty-two distinct kinds.

Perhaps vegetable crops receive even more jealous study and petting, to induce their greatest excellence, than do the flowers. The Carrots, Parsnips, Beets, Cabbage, and Kales are lifted early in the month of October from their summer quarters, and individually subjected to ocular inspection. Just think of the time, and the labour, and the cost of doing this where thousands and thousands of each vegetable are grown! The Beets are so far tested as to receive each a notch so that the depth of the colour of their "flesh," may be seen: all of those that are pale-coloured are discarded. The good form and freedom from "forking" are the needful qualities required by Carrots ere they are again replanted. These vegetables seed, where they are planted after this October examination. The Brassicas (Kale,

Cabbage, Cauliflowers), though grown side by side up to this period, are now removed as far away from each other as possible. If the variety of Kale or Cabbage is planted, say, in the western limit of the grounds, another variety would be taken away over to the south-eastern corner, and so on—anywhere out of each other's reach, to avoid, as far as practicable, the interfertilisation by bees of the distinct varieties. I may mention that an assortment of Coloured Kales are grown. In bedding, or colour arrangements in borders, I, for one, should like to see the Coloured Kales, such as *Miss Hope*, of *Wardie*, used to have, much more liberally grown in gardens.

Golden Globe and Dobbie's Ailsa Craig Onions are specially treated at Orpington. During the season these, too, are watched. The largest and finest bulbs are eventually lifted and planted by themselves, and these yield No. 1 quality (xx); lesser, but still superior bulbs furnish No. 2 (x); the rest are the ordinary seed stock. These selections are necessary on the part of a firm that supplies special exhibition strains of vegetable and flower seeds.

—WANDERING WILLIE.

Obituary.

Mr. John Crosfield, J.P.

Readers of the Journal who have ever visited the beautifully kept gardens at Walton Lea, Warrington, will deeply regret (as I sincerely do) the death of Mr. John Crosfield, J.P., the more than esteemed owner of this beautiful mansion, and whose gardens, so practically cultivated by Mr. W. Kipps, have been the admiration of all flower lovers. The late Mr. Crosfield will ever be remembered by Warringtonians as one who studied art and nature in its truest sense, the former by his liberal support to the art circles of the town, and the latter by his unbounded sympathy with the working class, who, equally with himself enjoyed the lovely displays of *Camellias* and *Chrysanthemums*, which Mr. Kipps had always up to the highest point of perfection. The road to Warrington on show days was always a remembrance. May the same kindly nature receive his just reward, and be to others an incentive to do likewise.—R. P. R.

Mr. George St. Pierre Harris.

This well-known cultivator and raiser of Show and Fancy Dahlias died at his residence, Sends Hill House, Orpington, on the 26th ult., at the patriarchal age of 94 years. He was always present at the exhibitions of Dahlias at the Crystal Palace and the Royal Aquarium, and was invariably seen at the meetings of the R.H.S. at the Drill Hall in the Dahlia season. He was also a member of several of the leading special Floricultural Societies. During the past season he exhibited several promising seedling Show and Fancy Dahlias at the Crystal Palace, Royal Aquarium, and Drill Hall, and one, a charming Fancy variety, named *Mariner*, received a Certificate of Merit at the Crystal Palace, and was also awarded the Special Prize offered by Mr. Richard Dean for the best Fancy Dahlia of the year. Of his seedling Show varieties, *Standard*, deep chocolate red, distinct in colour and fine outline, obtained an Award of Merit from the Floral Committee of the R.H.S. Other promising varieties are *Flower of Kent*, *Brilliant*, *Queen of the Primroses*, and *Sunset*. During his lifetime Mr. Harris filled certain public offices, and on retiring he built himself a delightful mansion on the high ground about Orpington; and here he found the chief occupation in his charming garden. He was one of the old school of florists, of which but very few indeed are now left. Mr. Harris passed away quite peacefully, after a very short illness, leaving a widow to mourn his loss.—R. D.

Sir Henry Gilbert.

The colleague who worked for such an extended period along with the late Sir John Bennett Lawes experimentally in scientific agriculture and horticulture, namely, Sir Henry Gilbert, has now joined his illustrious predecessor beyond this Vale of Tears. The late Sir Henry died on Monday, December 23, at Harpenden. Sir Henry had control of the Chemical Laboratory at Rothamsted, and his life's work is to be found in the papers issued conjointly by Sir J. B. Lawes and himself.

Sir Henry (Dr. at that time) Gilbert was elected President of the Chemical Society in 1882-3, but he was made a Fellow of the Royal Society as far back as 1860, and in 1867 was awarded one of the Royal medals at the same time as his colleague. He was a Fellow of the Linnean and Meteorological Societies, and for six years was Professor of Rural Economy at Oxford. In 1880 he was President of the Chemical Section of the British Association, which that year met at Swansea. The jubilee of the Rothamsted experiment was celebrated in 1893, and a week or two after that interesting occasion Dr. Gilbert was knighted. At the celebration a handsome silver salver was presented to him in commemoration of the completion of fifty years of unremitting labour in the cause of agricultural science, and in an address presented by the Royal Agricultural Society the following statement was

made: "Your investigations into the applications of chemistry to the cultivation of crops and the feeding of live stock have been of the highest possible importance to the practical agriculturist, and the sincere thanks of the agricultural community at large are due and are hereby tendered to you for the scientific skill and indefatigable industry which you have brought to bear upon the conduct of the Rothamsted researches."

The death is reported from America of Mr. Charles G. Knott, superintendent of the Public Gardens at St. John, N.B. He was born on October 5, 1854, at Streatham, London, England. He worked with his father until he was sixteen, when he entered the employ of a sister of Ambrose Bassett, under George Barker, then head gardener there. Two years later he took charge of a range of houses at Clarendon Nurseries, in the West End of London, where he soon became foreman. In 1875 he went to America. Mr. Knott leaves a widow and four children.

A Worcestershire Village and Its Gardens.

Mr. Bygrave, whose little daughter and the flowers she loves were figured in our last issue for December, 1901, page 586, sends the following interesting letter from his home in the gardens of Rous Lench Court, near Evesham:—

"I send you a few notes of local interest, but I feel it requires a more adept pen than mine to do justice to this wealthy and ever-interesting locality. I believe Rous Lench shares the honour of being one of the prettiest villages in England. It certainly is a model village. The Rev. Dr. Chafy, who is both Rector and Lord of the Manor, encourages thrift by providing good cottages with gardens and cheap holdings. The industry of Rous Lench is certainly handicapped, being so far from the station—seven miles from Evesham, and five to six miles from any other, with bad roads.

Allotment Gardens and Their Owners.

"One of the most striking features to strangers is the number of allotment holders, who get their living almost, if not entirely, from their holdings. The cottagers are thrifty and self-supporting in a very creditable manner. Their chief meat is home-fed and cured bacon—on the true Wiltshire principle; also vegetables and fruit from their gardens; fruit for cider from the trees which are planted amongst the hedges that surround the fields; home-brewed beer; honey from skeps and bar-framed hives; eggs from home-reared poultry, and Birmingham takes the surplus. [And yet, with all this, people flock to the towns!—Ed.] The staple crop of the allotment holders, where the ground suits it, is Asparagus. This is planted 3ft to 4ft apart and 1ft apart in the rows. These are ridged up in the autumn and forked down again in the spring. Soot and fish-manure are the most common manures given, and these are applied so soon after cutting is finished as possible. Tomatoes are planted by the thousand. Early Evesham and Early Ruby are the varieties most generally grown. Peas are largely grown by the farmers, and many have already sown for the first crop. Every class of vegetable is grown, for whatever will pay is not despised.

Fruit Culture, &c.

"It needs no pen to utter the praises of the suitability of the soil of Worcestershire for fruit culture, especially stone fruit. Plum trees are planted by the acre, till they resemble a large wood. Strawberries are being planted more extensively; Gooseberries and Black Currants are staple crops, and generally make good prices. Gillyflowers (Carnations) amongst flowers are the most commonly grown. These are sown in March, and, with proper thinning become sturdy plants before the winter sets in. We are not so forward with our produce in the market in the spring as those more favourably situated nearer Evesham, being nearly a fortnight later.

"The church and churchyard are both pretty and interesting. The churchyard was once a feeding ground for animals, rough and turbulent; now a place worthy of the name 'God's acre.' The graves are kept uniform in shape; the grass closely shaven; the walks regularly rolled and weeded. Spring and summer bedding plants enliven the borders, especially prepared for their reception. Many of the tombstones are covered with climbing Roses. Roses, neatly trained, adorn the walls of the sacred building. Shrubs, artistically planted, are dotted about the churchyard; also some fine clumps of the Pampas Grass. The shrubs are grand specimens; they are thickly feathered down to the ground, with golden and dense green foliage. On each side of the church door are a pair of *Thuia aurea*, while an avenue of *Cupressus Lawsoniana erecta viridis* leads from the entrance to the Park. Others are *Cupressus Lawsoniana aurea*, *Retinospora plumosa*, *Abies Nordmanniana*, Irish and Chinese Junipers, *Araucaria imbricata*, *Thuia gigantea*, a fine specimen of *Cryptomeria elegans*, and not forgetting a grand old Yew.

"The Court and gardens are full of historic interest, and their voice will no doubt be heard another day. Suffice it to say, the

gardens are formed of ten terraces, bordered with wonderful Yew hedges, clipped into various shapes and forms. The gardens are unique. The views are scenic and majestic, and once seen, leave an impression never forgotten. From the tower in the kitchen garden one commands a grand and extensive view, looking over the Vale of Evesham to the Broadway Hills, and in another position the Breden and Malvern Hills. My next-door neighbour belongs to a nonagenarian family—herself nearing ninety. She was born in the cottage which she now inhabits, and it was only by mistake she let herself be led away to sleep out of it the only one night in her life."—WM. BYGRAVE.

Edinburgh City Gardens.

Overhearing two of my fraternal friends recently discussing the merits of the alterations effected in the arrangement of East Prince's Street Gardens, I became interested in the matter, and resolved to take advantage of the first opportunity presented for the inspection of the same. The weather on the day of my visit was admittedly seasonable but far from being pleasant; with incessant showers of sleet, driven by a chilling east wind, making most mortals seek the shelter of some kindly roof. Still, such inconveniences must be tolerated.

A very noticeable feature of these gardens is the great care which is taken to have everything in the best possible order—walks clean, verges nicely kept, and borders with their shrubby occupants fresh and flourishing. Many of these last-named are at present being renovated, the older and unsightly plants being replaced with fresh evergreen and flowering shrubs. Noticeable among these are Laurels, Aucubas, Oval Privet, Hollies green and variegated, *Spiræas*, &c. Passing mention may here be made of *Olearia Haasti*, which, as an evergreen flowering shrub, is unrivalled on account of its adaptability for town planting. It grows in almost any situation, and in summer is a beautiful sight when covered with flower. The special feature of which I wish to write a little on this occasion is the great improvement Mr. J. W. McHattie, the city head gardener, has wrought in the remodelling the portion surrounding the Scott Monument in the East Gardens.

Recognising that ribbon borders bedded in much the same fashion every season become monotonous and uninteresting even to their most ardent admirer, and as it were impossible under the old arrangement to provide different floral effects each season, Mr. McHattie wisely decided on a change. By removing the walk which ran in direct line with the monument between two lines of Elm trees, beyond the second line, a fine oblong green was thus available next to the street. On this Mr. McHattie has laid out three lines of beds, in shape oblong and circular alternating, the centre line being of slightly larger dimensions. These beds are so placed that artistic summer bedding may be indulged in, and Mr. McHattie will, no doubt, do his best to bring Edinburgh's public garden into line with the fine display given yearly in the large London parks. The roof garden of the Waverley Market is also to receive Mr. McHattie's attention, and there can be no doubt but that there also his genius will make itself evident. In conclusion, the least that can be said of Mr. McHattie's work is that he ought to receive the hearty support of the public in his endeavour to bring about a change that may be appreciated.—SCOTIA.

Hoar Frost.

In the phenomena of the season, hoar frost is prominent—that white, feathery clothing which fairy fingers seem to have scattered, so silently and lightly, over even the minutest blade of grass. It is so beautiful that we incline to wish it were more permanent. Yet it is no more than the frozen vapour of the air dissolved by the sun's earliest beams, and rarely occurring more than three or four days successively. So short is their succession, that it is a common saying in some country districts, "Hoar frost and gipsies never stay nine days in a place." It has been well said that at such times silence and purity, as a mantle, are thrown over the earth, and this simile was suggested by the colour of the frozen particles, and the entire absence of wind when they are formed. Hoar frost is nothing but frozen dew. Warm air holds more moisture than cold air will; consequently, when cooled at night, the air deposits some of its moisture. The moisture so deposited is dew; but if the cold is severe enough the moisture freezes as it is deposited, and then is called a hoar, or rime, frost.



Deutzia Lemoinei.

Flowers pure white. In comparison with other *Deutzias* it is ahead of them all, in that it blooms more abundantly and earlier. Its trusses are larger, double, and not single. Can be readily forced with ordinary care in the house in the winter time to bloom about Easter, thus producing excellent flowers when such a colour is in greatest demand. This plant cannot fail to give satisfaction for both indoor and outdoor use. It is dwarf in growth, being about 12in to 14in high when delivered, having several branches. It is just being introduced, and for a plant possessing its characteristics no one should hesitate to secure it.

Xanthoxylum alatum.

Mr. Odell showed specimens of this tree at the meeting of the Scientific Committee (R.H.S.) on December 17, remarking that:—"The specimen shown is from a large shrub growing at The Grove, Stanmore, Middlesex, where it annually develops its fruits and seed. It is a native of N. India, Nepaul, Khasia, and China, the fruits and seed being used by the Chinese both as a drug and a condiment, and known as 'Hwa-tseon.' A full account is given by the late Mr. D. Hanbury in 'Science Papers (Notes on Chinese Materia Medica).' Mr. Hanbury also read a paper before the Linnean Society in 1863 on a case of presumed parthenogenesis in *Xanthoxylum alatum* ('Science Papers,' p. 318). The flowers of the specimen brought are apetalous and appear to be polygamous, but although seed is produced in abundance not one has yet germinated. In cold and frosty weather the leaves have a curious habit of infolding the margins until the blades are like small cylinders; this position continues until the return of mild weather, when they very slowly resume their normal flat position. Prof. Kerner, in the 'Natural History of Plants,' says that from nine to eighteen buds are formed in the leaf axil of *Xanthoxylum*, of which the middle one is the biggest, and grows out during the following year into a short or long shoot. The other small buds are kept in reserve in the cortex at the base of the shoot. This may, perhaps, account for the fact that although the wood is hard and brittle, yet the tree will answer easily to the knife, and can be kept in good shape by pruning."

Violet Disease.

Referring to former communications on this subject, Mr. Hutton, of Donaghadee, wrote to the Scientific Committee (R.H.S.) as follows:—"I wish to bring another point to your notice, i.e., the question of infection being carried through the air, and not being dependent upon contact alone. That this is the case will, I think, be shown by the fact that fresh and healthy plants which I procured from Surrey early in September, and which were planted in fresh ground at least 100 yards distant from any affected plants, showed signs of the 'spot' very shortly afterwards, and in about two months were completely destroyed. Every care was taken to isolate these plants during unpacking and other stages. It would be of importance to know the experience of other growers who have had annoyance from this disease, and whether in any case the culture of Violets has been successfully renewed, and if so, what length of time was allowed to pass before re-commencing. I am of opinion that once the fungus has appeared or become established, any attempt at replanting fresh stock will be useless, unless all former plants are destroyed, and a certain length of time allowed to elapse, in order to 'starve out' any germs which might be located in places other than the soil itself, and whose presence would cause a return of the trouble. If the vitality of the spores under different conditions could be determined, the result might prove of assistance to any grower, who, as in my case, may have had a total loss of crop, but is desirous of commencing again, if this could be done with safety. Would you kindly have my name mentioned in the Journal in connection with this matter of Violet disease, as I thereby may be brought into communication with others who have had a similar experience."

Clianthus puniceus albus.

Seed of a white blooming variety of *Clianthus puniceus* has reached me from Australia, says a Continental seedsman in a recent circular, the native home of that beautiful leguminous species, where it is a much prized shrub on account of its splendid scarlet red flowers. With us, grown in a cool greenhouse, it makes a highly ornamental, quick-growing pot plant. As the seed is pale-coloured, and therefore quite different from that of the parent sort, it may be safely assumed that at least a large percentage of the plants will come true.

Grape Wine.

No. 1: To 1qt Grape juice, add 3qts water, 2½lb brown sugar, stir until the sugar is all dissolved, and store in an open vessel for three weeks, covered with mosquito netting or cheese cloth, to protect against insects. Put in jugs and keep closely covered until March or April, then rack off, bottle and seal. No. 2: To each gallon of juice, add 1lb white sugar, let stand three days, skim, strain, and measure, and to each gallon add another pound of sugar, let stand three days, measure, and again add a pound of sugar. Bottle and seal. This recipe makes a very rich, sweet wine.—("Canadian Horticulturist.")

Bamboos Store Water.

Bamboos have been discovered to be of still greater usefulness than ever in warm countries. Mr. R. H. Yapp, an English naturalist who has recently explored the mountain ranges of the Malay peninsula, reports the hitherto little-known fact that in several species of Bamboo the hollow internodes—the parts of the stems between the joints—are stored with large quantities of naturally filtered water. The knowledge of this fact might be of great service in an emergency. Mr. Yapp also discovered two species of Ferns, growing on trees, whose thick, fleshy stems are filled with galleries tunnelled by ants, the Ferns thus forming living nests for the ants.

Potatoes.

Seed tubers of early Potatoes should be encouraged to produce strong sprouts by placing them eye end upwards in shallow boxes in a light position. For early planting in frames on a hotbed the tubers may be encouraged in a warm, light place, partly embedding them in light soil. For later planting, however, it will suffice to bring them on slowly. While early tubers are forming strong sprouts, the frames may well be prepared for their reception. A hotbed of manure and leaves firmly placed together so as to heat gently will form a good base on which to place about a foot of rich soil. Plant the tubers a foot apart in rows 15in asunder. The Ashleaf varieties, Sharpe's Victor, or Ring-leader, are good varieties.—S.

Hollies.

The English Holly is rarely seen among hardy trees and shrubs in America, according to the "Florists' Exchange," though in the vicinity of Philadelphia there is more than one specimen of good size to attest to its hardiness. There is one in our mind as we write, not a mile away, 5ft high, and full of berries, happening to be one of the fruiting kind. It is now four years since we saw it, but at that time, in another part of this city, was a specimen fully as tall as the one mentioned above, but we never saw berries on it. As these trees had stood their ground many years, they had passed through some severe winters. If its hardiness so far north as this was better known, there would certainly be a call for this Holly, as, aside from its own merits, there is an ever-increasing call for shrubs and trees bearing ornamental berries in the autumn and winter. As we have mentioned before, all Hollies are not berry bearing, and unless one has already borne berries a customer runs a risk in purchasing it. Some of our nurserymen have made successful efforts in grafting the fruit-bearing one on seedling stocks, and without question this is good policy. Grafted plants usually bear at an earlier age than others, and what would sell better at Christmas than some pretty live Hollies with berries in pots? The raising of seedling Hollies is accomplished by sowing the seeds in early spring, letting them lie in the ground a whole year. Florists handling Holly for Christmas usually have lots of berries at the bottom of the boxes containing it, and these would give them a supply to commence with, in the raising of seedlings.

Leek Dobbie's International Prize.

Competition is said to be the life of trade; and doubtless up to a certain point this is true. The axiom is no less applicable

were grown with an ultimate view to competition in a very large class, in which thirty-three entries were furnished for Messrs. Dobbie and Co.'s prizes at the Royal Aquarium, Westminster, on September 17, 1901. The grower and stager of this set was Mr. W. Liddell, Throckley, Northumberland, who led first. Perhaps Mr. Liddell may send a note for the benefit of Journal readers,



LEEK, DOBBIE'S INTERNATIONAL PRIZE. SIZE OF BEST LEEK, BLANCHED PART, 13½IN. LONG BY 6½IN. CIRCUMFERENCE.

to the efforts of the cultivator, for competition in vegetable or flower growing is a constant spur that urges the gardener to better efforts, and more careful and constant. These are the thoughts that are with us now, as we present an illustration of six such magnificent Leeks as those depicted on page 17. They

describing his cultural practice. The blanched part of the best Leek in Mr. Liddell's collection measured 13½in long and 6½in in circumference. Such Leeks can only be grown from the best exhibition strains of seed, and "Wandering Willie's" notes on page 14 should be read along with this paragraph.



Late Chrysanthemums.

As you were unable to give me a call at the Chrysanthemum time lately, I have sent you a photograph my son took of the same. They have come out very well. Reading in the *Journal* last week the article from "An Old Contributor," I notice he mentions the different sorts of Chrysanthemums he has in bloom at the present time, and he says he has a number that will not flower till January. Would he kindly oblige your readers as to the sorts those are?—G. R. PEERLESS. [We trust he will.—Ed.]

Rosarians v. Chrysanthemists.

I do not know to whom I am indebted for a copy of the *Journal* of December 19, sent to me by post to my old address a few days ago. In it the chairman of the dinner of the National Rose Society is said to have observed the report of Mr. Harman Payne's speech in the *Journal of Horticulture*, where he stated that the Rose Society was chiefly composed of old spinsters and country parsons.

I have referred to that report, and find, as might be expected, that in the process of necessary condensation my speech at the N.C.S. annual dinner has been shorn of its humour, and nothing but a few dry bones left. In two places it is not verbally correct, nor in the order in which it was delivered. Perhaps you will allow me to assure the chairman of the N.R.S. dinner that I never mentioned that Society in my speech, and consequently never said that it was composed of old spinsters and country clergymen. I know absolutely nothing of the composition of the N.R.S., but I do know what I said concerning the popularity of the Rose and the Chrysanthemum. To your correspondent, who indulges in personalities under the shelter of a nom de plume, and who has not even inquired whether the person he attacks is correctly reported, I have only to say that it is not usual to enter into discussions in the public press with such anonymous correspondents.—C. HARMAN PAYNE.

[Even though condensed, we had thought enough of Mr. Payne's speech at the N.C.S. annual dinner was reported to convey the impression of humour which is always present with him. Our reporter is assured of the correctness of his report of Mr. Payne's expressed sentiments, even though the words he used were not printed literally as spoken. Furthermore, at the dinner of the National Rose Society our reporter's statements were corroborated by another gentleman who had the better advantage of hearing Mr. Harman Payne by being nearer him. We do not necessarily identify ourselves with (or against) the opinions of the persons whose speeches we correctly report; nor with correspondents who may take exception to statements contained in these speeches.—Ed.]

Mr. Wm. Melville: An Appreciation.

The brief paragraph in the *Journal* of December 12 regarding the retirement from active duties of Mr. William Melville; Glenlee, awakened memories which had been semi-dormant for some time, and I was carried back in thought for a period of nineteen years to the time I spent under him in the gardens at Glenlee. Well do I remember the long drive up the banks of Loch Ken from the railway station that dark, cold November day, and the hearty welcome and cheering cup with which I was received. The year passed by quickly and uneventfully, yet there was much that happened in that brief year, much that was learned which has proved helpful in my career since. Thirty-nine years of faithful service is something to be proud of and fain would we add our little mite of gratitude to the great total at this auspicious time.

Although of late years Mr. Melville's name has not appeared amongst the champions at our great shows, it was not always so. If we go away back into the seventies we find his name amongst the most noted Grape growers of the day. The Glenlee Grapes, both for quality and weight of bunch, were considered no mean opponents.

At the Great International Show held at Edinburgh in 1869 we find Mr. Melville taking his position amongst the prizewinners,

notably for Black Alicante and heaviest white, in which latter he occupies second place, the late Mr. James Dickson, his friend and mine, occupying the premier place. There grew in the conservatory at Glenlee the finest plant of *Lapageria alba* that it has ever been my fortune to see. It was planted by Mr. Melville some years before I went, in a carefully prepared border, and was yearly making splendid growths, which flowered most profusely.

Another thing I saw at Glenlee which I have never come across again was a huge plant of *Passiflora edulis*, which bore abundance of its egg-shaped fruits, the flavour of which, however, did not suit my palate. Many other things that little paragraph brought back to my memory, especially three tricky boys, no longer boys now, so the least said on this subject the better. I trust, however, that both Mr. and Mrs. Melville may be long spared together to enjoy their well-earned rest, and pray that the Giver of all Good may bless the evening of their days, and that "at evening time it may be light," is the heartfelt wish of—

ALBYN.

"Hardy" Fruit Grown Under Glass.

The above title, under which Mr. Thurstan has something to say of an exhibit at the recent Ipswich horticultural show, entices me to add a line or two. Firstly, the Ipswich schedule says the judging will be according to the 1899 Code of Rules, R.H.S., which ought to be plain enough to anyone, that indoor-grown fruit would not be allowed. Secondly, as I had the best dish of kitchen and best dish of dessert Pears in the show, I feel sure my Pears are among those alluded to in the paragraph on page 542. If so, the writer is mistaken, as, although I have an orchard house, I have not a single Pear tree in a pot, and have not grown any in pots for the last fifteen years. Personally, I do not believe there was a dish of Apples or Pears in the show that had the benefit of help under glass. All the fruit I staged was grown on cordons and pyramid trees outdoors.

Would it not have been better if Mr. Thurstan had ascertained the facts before rushing into print? Gossip may have been rife, as a local gardener congratulated me on my beautiful Pears, and said, "Of course, they were grown under glass?" He was taken aback when I told him they were grown entirely outdoors, and he said he had been given to understand I grew them in pots in an Orchard House. Hence my reasons for thinking it gossip. The fruits I exhibited are all used, or I would have sent you specimens of them to show they can be grown large without the aid of pots and glass—the pap-boat I leave alone.

Perhaps the disheartened ones will reap the benefit of that. I am sending a specimen of Pear, Uvedale's St. Germain, off a cordon carrying nineteen fruits. The majority were larger than this specimen, the heaviest being 2lb 2oz. The other specimen is of Beurré Diel, off a cordon carrying twenty-eight fruits. So much for thinning to four fruits on a tree.—F. H. KETTLE.

[The specimen Pears sent by Mr. Kenty were large for their kind, and altogether highly creditable. Judging from their appearance, we do not think they had been nursed under glass. The Beurré Diel was luscious and highly coloured. The Ipswich men must just cultivate more painstakingly, and beat Mr. Kenty on the next occasion.]

Iris tectorum.

A recent paragraph in the *Journal* regarding *Iris tectorum*, as grown in the United States, would attract the attention of some readers interested in the family to the possibility of growing this very pretty Iris in this country. There is no reason why it should not be cultivated, and, in fact, it is grown here, though only in a few places. It is only a few years since it was offered in a few catalogues of those who make a speciality of hardy flowers, although it was introduced into Britain in 1874. It has been in my garden for several years now, and I think that I spoke of it once in the course of my "Hardy Flower Notes." It is, however, such a pretty Iris that it deserves another notice, with some remarks upon its cultivation, as one has found it here. The plant itself has been one for which I have had a special fancy from having read of the way in which it was grown on the roofs of Chinese and Japanese houses. I suppose that most of us thought that the natives of these countries were of æsthetic tastes, and grew this Iris for its beauty alone. However, if we thought this, Mr. Peter Barr has disillusioned us, for it appears from what he says that it is principally for its utilitarian qualities that *Iris tectorum* occupies such a prominent place on the houses of Japan. It seems that it helps to bind the thatch of the roof together, and to form a firm and permanent ridging. Although this rather lowers our impression of the love for flowers of these peoples of the East, it need not lower our opinion of the beauty of the plant itself, or make us

prize it the less because of the combination of the "dulce et utile" practised in China and Japan.

Here, I find that it requires a warm and dry position, either on the top of a sheltered rockery, wall, or roof; on the latter, however, it will not flower well if in an exposed position. Two or three inches of soil are quite enough when it is on a wall or a slated roof. Like most other Irises of its character, it can stand a great deal of drought without injury.

In appearance *I. tectorum* is a handsome Iris when in bloom. The flowers are large to be produced on such a small plant, and are noticeable also from their flat form, which reminds one largely of that of the varieties of *I. lævigata* or *Kæmpferi*, but on a rather smaller scale. The colour is generally lilac, with white markings on some parts of the flower; but there is also a rare white variety. The stem, which bears one or more heads, with from two to three flowers in a spathe, is from a foot to a foot and a half long, and rises a little above the leaves. This Iris is sometimes to be met with under Hance's name of *I. tomiolopha*, and in some Continental catalogues I have met with both names, as if referring to different plants, but as they were priced the same I imagine that one plant does duty for both names. *I. tectorum* is the name given by Miquelon, and has been preferred by Mr. J. G. Baker in his handbook of the genus. This Iris is well worth the attention of those who admire a class, or rather genus, of plants possessing so many claims upon those who like flowers of the highest types of floral beauty.—S. ARNOTT, *Dumfries*.

Seedling Carnations.

As Winter Flowering Plants.

About three weeks ago we received from Mr. Camm a charming boxful of seedling Carnation flowers, about which a note appeared, and the sender of the beautiful flowers now contributes the following cultural notes, which we trust will be of service to others hoping also to produce good Carnations during winter:—

The following method I can commend to anyone desirous of having a profusion of Carnation blooms to cut in winter, or to use as decorative plants for the conservatory, at a very small outlay of labour, and which I have found very satisfactory. The variety found most productive of bloom in winter is *Riviera Market*, and if the seeds are obtained from a good firm, at least 90 per cent. of the flowers will be double. The colours range from pure white to scarlet, and all shades of pink, salmon, and blush, with a few yellows and yellow grounds.

The seeds should be sown early in March, and raised in a warm house, nursing them carefully through the early stages of growth. When the seedlings are strong enough to handle, they must be pricked off into pans or boxes of light soil. Place them deep enough for the seed leaves to touch the soil, and keep them in a warm house or pit until well established, when they may be removed to a cold frame to harden before planting outside. About the middle of May is a good time to put them in their summer quarters, which should be a sunny border, previously well manured and deeply dug, allowing a space of 18in from plant to plant. Keep the soil well stirred with the hoe to keep down weeds and the surface from becoming hard.

When they have begun to grow well, pinch out the point of the leading shoot, which will cause them to break out freely, and make bushy plants. Attention must be given them in tying to neat sticks, to prevent them being broken by the wind, and if the weather is hot and dry a mulching of spent Mushroom dung, or other light material, is beneficial to them, when they will grow very fast. About the end of September they will be ready for lifting, and potted into pots suitable to their size. The best will take one of 10in, and smaller in proportion to the plants. They will be full of buds at the time of lifting, when any single ones can be weeded out. Afterwards keep in a close house or frame, and frequently syringe on bright days, when they will soon become well rooted, when they may be placed in a greenhouse, or any light position with a night temperature of not less than 45deg. A little will make them open quicker; but the bloom does not stand so well as from a cooler temperature. If this treatment is followed, a liberal reward will recompense the cultivator for his trouble, in having abundance of bright flowers through the winter of this popular flower.—WM. CAMM, Battle Abbey, near Hastings.

Societies.

Royal Meteorological Society.

The monthly meeting of this society was held on Wednesday, the 18th inst., at the Institution of Civil Engineers, Westminster, Mr. W. H. Dines, B.A., president, in the chair. The Hon. Rollo Russell read a paper entitled "Further Observations and Conclusions in Relation to Atmospheric Transparency." For a number of years past he made daily observations on the clearness of the atmosphere at Haslemere, Surrey, and in the paper he gave the results of the same. The principal conclusions derived from these observations are: Haze and fog are commonly caused by the mixture of currents at different temperatures. These currents may be local or general, high or low. Thick haze or fog not dependent on differing currents is rare; but differing currents frequently come into contact without producing haze or fog, and fairly clear weather under opposite currents is not uncommon. A fog may generally be taken ipso facto as evidence of the existence in the neighbourhood of a conflict of currents, and prevalent fog or haze commonly signifies that a different wind exists at a high level from that on the surface or at a slight elevation. The production of fog or haze by mixing currents depends chiefly on differences in their temperature. Broadly extended westerly winds with westerly upper currents are the clearest, and visibility may reach the highest figures during their prevalence, whether they are dry or nearly saturated. Easterly and north winds are the most hazy, owing to the ordinary upper current from the west being seldom displaced by them, and to the mixture of these masses of air of different temperatures. When, as an exception, east and north winds are clear, it may be presumed without direct evidence, that the upper current coincides with them in direction. In winter, therefore, unusual clearness in these winds often signifies a long spell of frost. The other papers read were: "Remarkable Phosphorescent Phenomenon Observed in the Persian Gulf, April 4th and 9th, 1901," by Mr. W. S. Hoseason; and "The Mechanical Principle of Atmospheric Circulation," by Captain R. A. Edwin, R.N.

Devon and Exeter Gardeners'.

Mr. Sidney Baker, gardener to Sir Dudley Duckworth-King, read a paper at last meeting of the Devon and Exeter Gardeners' Association, held at the Guildhall, Exeter, on "Melons and Cucumbers." Dealing with the culture of Melons, he said that fruit, in his opinion, was the most difficult to culture, as the young plants were so apt to be crippled either with black or green fly, or by mildew. As to the raising of the plants, he thought it was best to do so in small pots. The seeds should not be watered until they appeared, and then with lukewarm water, for the soil from the loam stack was generally moist enough to cause germination. Having alluded to the preparation of the ground for the reception of the plants, the question of their training was dealt with, the opinion being expressed that that attention was not bestowed on them which they deserved. They were often allowed to make too much vine, had to be mutilated, and as a consequence received a severe check. The best plan was, if growing in a house, to pick out all side shoots until the trellis was reached, when the leading shoots should be allowed to grow to the top of the house. Before that, however, if it was desired to get five or six Melons on a plant, the first two or three side shoots must be stopped at their second leaf. The lateral shoot that came would throw a Melon, which would open its flowers at the same time as the shoots on the top of the plant. They would then have a crop of five or six Melons. Touching on the ripening of the fruit, Mr. Baker remarked that when ripening commenced the more air that was admitted in a reasonable way, so as not to lower the temperature too much, the better flavour the fruit would be. In fact, as soon as the fruit commenced to change colour a little air should remain in the house or frames all night. The house and plants should be kept reasonably dry, or the fruit was very apt to crack. The subject was admirably dealt with, sound advice being given as to the treatment of the Melon plant in all its stages. On the subject of Cucumbers growing, Mr. Baker said the growing of this plant was something the same as the other; but the Cucumber did better in a stronger mixture, and was not quite so faddy about the loam being fibry and lumpy. As regarded sunshine, the Cucumber must be treated quite differently to the Melon, for whereas the latter could do with all the sunshine it could possibly have, the Cucumber must have partial shade. The atmosphere of the Cucumber house or frame must be kept much more moist, and in this respect was the great difficulty of growing the two plants in one house. The Cucumber was trained differently to the Melon, being allowed to make as much vine as possible until the frame or trellis was covered. Some people hardly gave Cucumbers any air, but he did not favour that method, believing it was better to give them air early in the

morning according to the outside temperature, increasing the supply as the sun rose, shutting up the house early in the afternoon. If the plants were well looked after during the first six weeks or two months there was not much danger of their being attacked by fly or any other pests. A rather long and eminently practical discussion took place, many valuable hints being given on the growing of Melons and Cucumbers. There was an exceedingly keen competition for the best three roots of Beet, all the specimens being very fine. The entries numbered nine, and the prizes were awarded as follows:—1, Mr. E. C. Cole, gardener to Mr. Heberden, C.B.; 2, Mr. J. Baker, gardener to Mr. Bradley Rowe; 3, Mr. J. Langdon, Parr Street. Votes of thanks were accorded Mr. Baker for his paper, and Mr. James Weeks, of Stoke House Gardens, for presiding.—(*Devon and Exeter Gazette*.)

Bristol Gardeners' Association.

The first annual dinner of this association took place on Thursday, December 19, at St. Stephen's Restaurant, Bristol, and was in every respect a most successful and enjoyable one. Sixty-seven members and friends sat down, including several visitors from other societies, under the able and genial chairmanship of W. A. Garaway, Esq., of Messrs. Garaway and Co., Durdham Down Nurseries. The chairman proposed the loyal toasts, and after the singing of the National Anthem, Mr. Brooks gave "The Army and Navy," Mr. John Bradner responding. The toast of the evening, to the "Bristol and District Gardeners' Mutual Improvement Association," was then given by the chairman. In an eloquent address he stated what useful and excellent work this society is doing. Eighteen lectures by practical horticulturists are given throughout the year, from which members were able to carry away valuable information, which not only made them better qualified gardeners, but more valuable servants, and he urged all lovers of gardens around Bristol to connect themselves with this association. The association had made rapid strides since its formation, having now a membership of considerably over 100 members. Mr. Binfield, vice-chairman of the association, suitably replied. Mr. H. Kitley then gave "Kindred Societies," which was well received, and responded to by Messrs. Poole, Vallance, and Melville. "The Horticultural Trade" being the next toast, Mr. W. Ellis Groves, the energetic secretary of the society, remarked on the help the association had received from the local nurserymen, by valuable prizes given at numerous meetings, and by making known the objects of the society to the gardening fraternity of the district. Mr. Parker, responding, offered to the committee a prize for the two best essays on "The Eucharis." Mr. Lee proposed "The Visitors," and Mr. Harris responded. The enjoyment of the evening was much enhanced by Messrs. Percy Smith, Parkman, Bradner, Maddocks, Melville, Perry, and Kitley, who rendered some excellent songs. On the motion of Mr. Binfield, seconded by Mr. Melville, the hearty vote of thanks of the meeting was accorded the chairman with musical honours, for the very great help the society had received from his hands financially and otherwise, and who had been so willing at all times to assist the association. The singing of "Auld Lang Syne" and the rendering of "God Save the King" brought to a close a most enjoyable evening.—H. K.

Shirley Gardeners' Association.

At a meeting of the members of the above association, held at the Parish Room on Monday, December 16, Mr. E. J. Wilcox, of The Gardens, Aldermoor House, gave a lecture on "Some Familiar Wild Birds," with special reference to the good and harm they do. Mr. B. Ladhams presided. The secretary, Mr. J. Miles, read a letter apologising for the non-attendance of Mr. J. King Allen. Mr. Wilcox's lecture was full of importance and interest to the gardener and farmer, as the wild birds formed a far more important place in the economy of Nature than most of them thought. He expressed himself strongly in sympathy with the Wild Birds' Protection Act, especially as regards the rarer birds, and was glad to find that the Society for the Protection of Birds had this year offered prizes of £5 and £10 for the most useful papers upon the best means of establishing a "Bird and Arbour Day" in England. Birds seem to be gifted with voracious appetites, and were said to eat per day more than their own weight in food. Though all birds have not such appetites, they have all good ones, and it was fortunate they had, when they came to consider the great variety of insect life in the air and ground. The lecturer classed the birds under three different heads: viz., seed-eaters, insect-eaters, and birds of prey. The bullfinch, he said, was very useful in destroying weed seeds, but it was very troublesome to the fruit grower in destroying the buds in winter and spring. The chaffinch is also a seed and bud eater; also the greenfinch and sparrow. As insect-eaters, Mr. Wilcox named the goldfinch, yellowhammer, robin, martin, swallows, linnet, tits, woodpecker, &c. The starling was a bird against which little could be said except that

it helped itself to a Cherry or two. Birds of prey are: the owl (this is a friend to the gardener, inasmuch that he catches mice, &c.), the hawk, kestrel, magpie (which is very fond of green Peas), jay, &c., were all friends in their way, by keeping down the number of smaller birds. A vote of thanks, proposed by Major Douglas, R.E., seconded by Mr. Thorn, to Mr. Wilcox for the most able lecture brought a very instructive evening to a close. Mr. Wilcox gained the society's certificate of merit for Begonia Gloiré de Lorraine.—J. M.

Pear, General Wauchope.

A late-keeping seedling Pear, with every circumstance of being a valuable addition to the list of dessert varieties. The illustration is from a sketch by our artist, Mr. George Shayler, and is true in size and general appearance. The skin is greenish yellow, flesh soft, juicy, and melting. The flavour certainly partakes of Ne Plus Meuris, which, with Duchesse d'Angoulême



PEAR, GENERAL WAUCHOPE.

variety, were the parents. The raiser was Mr. Charles Ross, gardener to Captain Carstairs, at Welford Park, and whose portrait we gave in our issue for October 10, 1901. He has raised some fine seedling Apples, but seems not to have devoted his attention to them exclusively. The Fruit Committee of the Royal Horticultural Society gave this Pear an Award of Merit at the meeting of December 17, when it was at its best. It is named after the famous Scottish General who gallantly fell, a little over a year ago, before Cronje's guns at Magersfontein.

PUBLICATIONS RECEIVED. — "Crampton's Magazine;" a literary magazine of excellence: new story, entitled "Johanna," by Mrs. B. M. Croker. January, 1902; London. Price 6d. * * "Journal of the Department of Agriculture of Western Australia:" articles on Vine-growing in Bordeaux; Insectivorous Birds of W.A.; Woodiness in the Passion Fruit; How to get rid of the Woolly Aphis; The Future of the Fruit Industry; &c. * * "The Tropical Agriculturist." * * "Bulletin of New York Botanical Garden," issued May 27, 1901; vol. 2; No. 6. We will have occasion to make further note of this. * * "Pacific Fruit World,"



Fruit Forcing.

CHERRY HOUSE.—In order to have fruit ripe with certainty early in May the house, if not yet started, must be set to work without delay. Fire heat may be employed to maintain a temperature of 40deg at night, and 45deg in the day, advancing to 55deg or even 65deg with sun heat, ventilating at 50deg, and closing at that point. Sprinkle the trees occasionally only in dull weather, and in the morning and afternoon when bright. Ventilate very freely in mild weather, and avoid hasty treatment in the early stages of growth. Examine the trees carefully, and if there is the least trace of aphides fumigate the house repeatedly, or syringe the trees with some approved insecticide for the thorough extirpation of the pests. Trees in pots must not be neglected for water, supplying it repeatedly, if necessary, to thoroughly moisten the balls through to the drainage.

CUCUMBERS.—Where winter Cucumbers are not grown, or the supply from April forwards is obtained from pits and frames, seed should now be sown for planting next month, either in houses or manure-heated pits and frames. The fermenting materials should now be in course of preparation for making up the beds. If no convenience exists for raising the plants a bed of fermenting materials should be made up forthwith, the seed to be sown as soon as the bed affords a suitable temperature of 70deg to 75deg top heat, and 85deg to 90deg bottom heat. Plants from this sowing will be available for house planting to afford a supply of fruit from about the middle of April onwards. Telegraph and Roehford's Market Favourite are good varieties either for home use or marketing.

PEACHES AND NECTARINES: EARLIEST HOUSE.—The trees started last month are advanced for blossoming. When the flowers are fully expanded the night temperature may be maintained at 50deg to 55deg in mild weather, 40deg to 45deg when severe, 55deg by day when the sky is overcast, 65deg by day from sun heat, and if the air be mild a few degrees more may be allowed with free ventilation. Syringing the trees must cease when the blossoms show colour, but a genial atmosphere should be secured by damping the floor and borders in the morning and early afternoon of bright days, having recourse to an occasional sprinkling of such surfaces only in dull weather. Ventilate freely when the external conditions are favourable, and when the pollen is ripe choose the warmest and driest part of the day, preferably before or within an hour of the sun passing the meridian, for aiding its distribution by shaking the tree or trellis, or taking a camel's-hair brush, or feather, and gently applying the pollen to the stigmas. If there be a deficiency of pollen of any variety it may be taken from those that afford it plentifully, and applied to the stigmas of the flowers sparsely furnished with that essential of fertilisation, and securing of a good set of fruit. The inside border must not be neglected for water, but avoid making the soil sodden by needless applications, especially of liquid manure, and afford sufficient protection to the outside border for the exclusion of frost.

SECOND EARLY HOUSE.—This may be the first in many establishments, the house containing trees of Hale's Early, Stirling Castle, Royal George, Dymond, Noblesse, and other mid-season Peaches, with Early Rivers, Lord Napier, Stanwick Elruge, and Humboldt Nectarines, and intended to afford ripe fruit at the end of May or early in June, should now be started. Damp the house and trees two or three times a day, but the former must be allowed to become fairly dry before nightfall; and in dull weather the syringing should be omitted, or had recourse to occasionally only. Turn the heat on in the morning so as to secure 50deg through the day, ventilating at that temperature, and allowing it to rise to 65deg with free ventilation. Sufficient fire heat to maintain a temperature of 40deg to 45deg will bring the trees on quite fast enough. The inside borders must be brought into a thoroughly moist condition by repeated waterings, but where the roof-lights have been removed water will not be required until the fruit is set and swelling freely. The outside border should be protected with litter; all that is wanted is a covering to prevent chill from snow and the soil being frozen.

LATER HOUSES.—These should be put in order forthwith, and if any trees are swelling the buds more rapidly than is desired, a covering of mats over the lights will prevent the temperature being raised by the sun heat to a great extent, and the flowering will be retarded considerably. Where the roof-lights have been removed the buds are as yet quite dormant, and the lights may remain off until the time arrives for starting the trees, or, in the case of later houses, until the buds commence

swelling. Pruning may then be effected and the lights replaced, which will not be required until the end of February or later.

STRAWBERRIES IN POTS.—The earliest plants must not be pushed too rapidly, especially in severe weather, 50deg to 55deg at night being sufficient for those that were started at the beginning of last month, and 60deg to 65deg by day; but it is better to err on the safe side, therefore 5deg less in the absence of sun, the weather being cold, is advisable. Scrutinise the plants closely, and if any aphides are found fumigate the house, so as to destroy the pests before the flowers appear. Mildew sometimes fastens on the opening buds. In that case dust with a powder formed of two parts sulphur and one part air-slaked lime. Place more plants on shelves in Peach houses, or in vineries started about this time. The pots should have the drainage rectified if necessary, the surface soil removed or freed of moss or other matter, and be washed clean. A top-dressing may be given of rich material, say horse-droppings rubbed through a $\frac{1}{2}$ in sieve, with a third part of turfy loam and a little approved fertiliser mixed with it. La Grosse Sucrée, Vicomtesse Hericart de Thury, Royal Sovereign, President, Noble, and Auguste Nieaise are suitable varieties for introducing now.—**ST. ALBANS.**

The Kitchen Garden.

THE SOIL.—The best results in vegetable culture are only attained by first-class cultivation. Deepening and enriching the soil on which crops are to be grown may be carried out now better than at any season, as there is now the greatest area of ground vacant. Trenching and loosening the subsoil is by far the most important, because it is usually only at this season that the time and labour necessary for carrying out the work can be commanded. Manuring, where essential, may also be done at the same time. In trenching avoid burying the surface soil, which is, upon the whole, in a fertile condition, and capable of bearing crops. The surface is, however, immensely benefited by the judicious improvement of the subsoil, and the superiority of trenched ground will be evident during dry periods in summer. Where trenching is not possible, deep or double digging and ridging are good methods of ameliorating and pulverising stubborn particles, especially if the ground is left rough to admit frost.

PEA AND BEAN STICKS.—Where these are to be had for cutting and preparing, advantage should be taken of the first opportunity to secure them. Quantities of both may be prepared from prunings of shrubs and trees, and the best should be so utilised. Brushwood, and the undergrowth in woods comprising Beech, Birch, and Hazel, will furnish excellent material for Pea sticks. Short, as well as long, sprayey pieces ought to be secured. Even if enough for the demands of the garden cannot be obtained it will supplement the stock from other sources. Trim all ready for use, sharpening the ends to a point for inserting in the ground. Look over the stock of last season's sticks and discard all that are too rotten for further use. Stakes for other uses may well be obtained and prepared now. Pea sticks will be rendered more shapely for use if, when prepared, they are placed together and weighed down with logs of wood.

TOMATOES.—With a good heat of 65deg to 70deg at command, Tomatoes may be raised from seed to produce an early spring crop. Sow the seed thinly in light soil in 3in pots. When the seed germinates give abundance of light to maintain the plants sturdy, and pot on as required. Winter Beauty, Duke of York, and Earliest of All are suitable varieties for present sowing. Seedlings from autumn sowing must be potted in small pots and kept progressing in abundance of light and a brisk temperature.

RHUBARB.—The forcing of Rhubarb becomes less difficult as the days begin to lengthen, but for the present a good temperature is required. Surround the clumps of roots with a little soil, and afford a good soaking so that the crowns can be kept moist. Keep in semi-darkness, or cover with pots or boxes.

SEAKALE.—Continue to place strong roots having bold crowns in pots or boxes of soil, or plant in a bed of soil in a dark corner of the forcing house. Regulate the supply so as to form an unbroken succession according to the demand.

SALADS.—Lettuce and Endive in frames must be kept freely ventilated in suitable weather, also removing decayed and yellow leaves. Place Chicory and Dandelion roots in boxes of soil to force in a dark, warm place; while Mustard and Cress should be sown frequently on the surface of the soil in boxes placed in a warm structure.—**LYMINGTON, HANTS.**

An Observer's Notes.

JANUARY 3-9.

PLANTS DEDICATED TO EACH DAY.

Fri. 3	Rosemary flowers.	Hazel.
Sat. 4	Wren sings.	Stinking Bear's-foot.
Sun. 5	Garrya flowers.	Rigid Screw Moss.
Mon. 6	Lilac shows growth.	Portugal Laurel.
Tu. 7	Plough Monday.	Yellow Tremella.
Wed. 8	Redbreast commences singing.	Common Laurel.
Thrs. 9	Honeysuckle leaves opening.	Furze or Gorse.

PHOTOGRAPH received with thanks from G. R. Peerless, Esq.

ERICAS IN COLD PIT (A Reader).—It is impossible for us to say whether the injury your plants have received is sufficient to cause their destruction. Thousands of Ericas are wintered in unheated pits, but they are well protected, and even a few degrees of frost will not kill the hardier species, but it often browns and disfigures them. Do not remove your plants to a warm house, but keep them as cool as possible consistently with the frost being excluded, and you will adopt the best mode of mitigating any injury the plants have received.

ANGRÆCUM SESQUIPEDALE NOT EXPANDING (R.).—The condition of the flowers we attribute to the dense fogs that have prevailed in your district, in conjunction with the prolonged low temperature. Had you placed the thermometer close to the flower spike near the glass you would have found it several degrees lower than the body of the house: but the fogs are the principal cause of the injury, especially as you are situated near large chemical works, the deleterious gases from which could not escape from the moisture-laden atmosphere.

ZONAL PELARGONIUMS IN POTS (A. H.).—In all probability you will find on turning the plants out of their pots that the roots are not in a strong active growing state. In this case we should remove a portion of the old soil from them and repot in clean well-drained pots of the same size, and encourage growth by placing the plants in a light position in a house having a minimum temperature of 45 deg. to 50 deg.; fresh roots would then form speedily, and as soon as these protruded through the pots we should repot as you propose. You may remove the old soil and apply fresh about February, or whenever you can ensure a genial temperature for growing on the plants without check.

WHITE FLY INFESTING TOMATOES (Novice).—It is a kind of midge, and is not by any means common, and mostly infests such plants as have hairy leaves, such as Gesneras, Lantanas, &c. It deposits its eggs on the under sides of the foliage, and undoubtedly feeds on the juices of the plants. The glutinous substance on the plants is a consequence of the presence of the insects. They may be destroyed by fumigation with tobacco smoke, but upon the least presence of smoke they fall to the floor, as the smoke is not nearly so dense at the floor as in the upper part of the house. Prior to fumigating, the floor, borders, &c., should be well syringed, but not the plants, and as the insects cannot endure a wet surface they will be destroyed. A few fumigations at intervals of a few days will soon destroy the pests.

NAMES OF FRUIT.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (Enquirer).—1, Pear Beurré Diel; 2, Apple Dutch Mignonne; 3, Apple Emily Childs. Fruits sent in roll of cardboard.

NAMES OF PLANTS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (A. Nettleton).—1, Lælia anceps, good form; 2, Vanda cærulea; 3, Darlingtonia californica. (A. B.).—1, Begonia Hemsleyana; 2, B. carnea. (J. P.).—Justicia carnea. (N. M.).—1, Azara microphylla, one of the prettiest evergreen shrubs there are; 2 and 3, both Lonicera fragrantissima. (A. F.).—Probably Gymnogramma caudatum; this differs widely from most of its brethren of the genus.

Covent Garden Market.—January 1st.

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	2 0	to 3 0	Leeks, bunch	0 1½	to 0 2
„ Jerusalem, sieve	1 6	0 0	Lettuce, Cabbage, doz	1 0	1 3
Batavia, doz.	2 0	0 0	Mushrooms, forced, lb.	0 8	0 9
Beans, French, per lb.	0 8	0 9	Mustard & Cress, pint.	0 2	0 0
Beet, red, doz.	0 6	0 0	Parsley, doz. bnchs	2 0	3 0
Brussels Sprouts, ½ sieve	2 0	3 0	Potatoes, English, cwt.	4 0	5 0
Cabbages, tally	1 6	3 0	Radishes, doz.	1 6	0 0
Carrots, doz. bnch.	2 0	2 6	Seakale	1 0	1 3
Cauliflower, doz.	3 0	0 0	Shallots, lb.	0 2	0 3
Corn Salad, strike	1 0	1 3	Spinach, bush.	2 0	3 0
Cucumbers, doz.	6 0	0 0	Tomatoes, Canary con-		
Endive, doz.	1 0	1 3	signment	4 0	5 0
Herbs, bunch	0 2	0 0	Turnips, doz. bnch.	2 0	3 0
Horseradish, bunch	1 6	0 0	Watercress, doz.	0 6	0 8

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.
Aralias, doz.	5 0	to 12 0	Ferns, var, doz.	4 0	to 18 0
Araucaria, doz.	12 0	30 0	Ferns, small, 100...	10 0	16 0
Aspidistra, doz.	18 0	36 0	Ficus elastica, doz.	9 0	12 0
Chrysanthemums, doz.	0 0	0 0	Foliage plants, var, each	1 0	5 0
Crotons, doz.	18 0	30 0	Lycopodiums, doz.	3 0	0 0
Cyclamen, doz.	10 0	12 0	Marguerite Daisy, doz.	8 0	10 0
Dracæna, var., doz.	12 0	30 0	Myrtles, doz.	6 0	9 0
Dracæna, viridis, doz.	9 0	18 0	Palms, in var., doz.	15 0	30 0
Erica gracilis, doz.	10 0	12 0	„ specimens	21 0	63 0
„ caffra, doz.	15 0	18 0	Primulas	3 0	4 0
„ hyemalis	9 0	15 0	Shrubs, in pots	4 0	6 0
„ „ alba...	12 0	18 0	Solanums	8 0	12 0

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, cooking, bush.	6 0	to 8 0	Lemons, Mesena, case	12 0	to 16 0
„ dessert	8 0	20 0	Oranges, per case	4 0	16 0
Bananas	8	12 0	Pears, English, ½ sieve	0 0	0 0
Figs, green, doz.	0 0	0 0	Pears, French, crate	9 0	12 0
Grapes, Alicante, lb.	1 0	1 6	Pines, St. Michael's,		
„ Colman	1 0	1 6	each	2 6	
„ Hamburg	0 0	0 0	Plums, ½ sieve	0 0	0
„ Muscat	2 6	3 6	Walnuts, ½ sieve	0 0	0

Average Wholesale Prices.—Cut Flowers

	s. d.	s. d.		s. d.	s. d.
Arums, doz.	6 0	to 8 0	Lilium l. rubrum	2 0	to 2 6
Asparagus, Fern, bnch.	1 0	2 0	Lilium longiflorum	5 0	8 0
Bouvardia, white,			Lily of the Valley, 12		
doz. bunches	6 0	8 0	bnchs	12 0	24 0
Bouvardia, coloured,			Maidenhair Fern, doz.		
doz. bunches	6 0	8 0	bnchs.	6 0	8 0
Camellias, white	3 6	0 0	Marguerites, white,		
Carnations, 12 blooms	1 3	1 9	doz. bnchs.	2 0	4 0
Cattleyas, doz.	8 0	12 0	„ yellow, doz. bnchs.	0 6	1 0
Chrysanthemums,			Odontoglossums	5 0	6 0
specimen blooms,			Primula, double white,		
doz.	1 0	4 0	doz. bunches	6 0	8 0
„ white, doz. bnchs.	4 0	8 0	Roses, Niphetos, white,		
„ coloured, doz. bnchs	3 0	8 0	doz.	1 0	3 0
Cypripediums, doz.	3 0	4 0	„ pink, doz.	4 0	6 0
Eucharis, doz.	6 0	8 0	„ yellow, doz. (Perles)	2 0	3 0
Gardenias, doz.	6 0	0 0	„ red, doz.	0 0	0 0
Geranium, scarlet, doz.			Smilax, bnch	2 6	3 0
bnchs.	9 0	12 0	Stephanotis, doz.	0 0	0 0
Hyacinth, Roman,			Tuberose, gross	6 0	0 0
doz. bunches	8 0	9 0	Violets, single, doz	1 6	2 6
Lilium lancifolium alb.	2 0	2 6	„ double, doz.	3 0	4 0



1902: Its Agricultural Prospects.

That the past two or three seasons have been very discouraging to farmers, few will contradict; and it may be interesting to gather a few warnings from them, and to note their influence on the immediate future. Since stock-raising and the production of meat have become such important items in the finances of the farm, the influence of drought in diminishing profits has been much greater than it used to be when Corn growing was a profitable game; for, as a rule, dry seasons produce good crops of Wheat and Barley of excellent quality, being only unfavourable to sandy soils, which are not extensive in this country. Grass in many parts of England, and practically all over the south, has given a very poor return for two years; but the fields which have suffered most are those which have been laid down in recent years, but more than two or three.

To get a good swarth, newly sown down pastures must be well manured for a year or two, and the manure has helped such fields to withstand the drought; but manure cannot be continually applied for an indefinite time, and hundreds of acres of seven or eight years' ley have been of very little use to their occupiers. As a fact, if dry seasons are to continue, assistance must be given to these fields by the consumption of additional food upon them. Where is it to come from? There is no surplus hay or straw; so there is no other resource except green catch crops, which may be sown, if they are not already growing, upon land which has failed to produce a plant of Clover. We fear that such fields are only too numerous; at any rate, they are as far as our own experience extends. To get a good crop of Tares or Rye, which will be worth mowing to cart away and consume on grass, the seed should have been sown at Michaelmas, and we know several such plots which promise well for next summer.

If weather be mild in February, further breadths may be sown; but we should recommend winter Tares, not spring Vetches. A field of summer Cabbage is also very useful if the plants are ready for use by midsummer. There is an abundance of strong August-sown plants still to be had, and if they are spoken for at once, and planted late in February or early in March, many of the earliest would

be ready to draw out and consume next July. Cabbage has advantages over Tares, in that, although it loves sunshine, it does not become laid and rotten if the summer is a wet one, and it does not require consuming as soon as ready; but will generally keep until autumn if required.

A feature of the past season has been the very wide diversity in the Turnip crops. In this neighbourhood have been many fields which promised very well until they were thinned out; but afterwards, through the ravages of insect pests, became patchy, and produced only a small proportion of good sound roots. As a contrast to these, we have seen the best piece of Swedes which we have known for many years, and many other plots which would be highly satisfactory in any season. It may not be so in every case; but in some the difference can be traced to the influence of good, though expensive, seed, compared with cheap rubbish deficient in constitution. The Potato fields of a neighbour have, in a similar manner, shown the wisdom of liberality in the purchase of new seed. One field, planted with Scotch-grown Up-to-Dates, has produced just double the crop of another field which was planted with the same variety home grown. We have calculated that, after allowing for difference in cost, the Scotch has beaten the other seed by £10 per acre. The difference between the two, reckoned on the whole area of Potatoes grown, would have nearly paid the rent of the farm. Major Hallett's seed circular, received this morning, reminds us that Barley seed time will soon be here, and that success in Barley growing depends very largely on the selection of seed. The difference in size between samples grown on similar land is often very conspicuous, and the well-grown lots are often found on inquiry to owe their origin to the selected Chevalier of Major Hallett.

The Mangold crop was a splendid one, and is the one bright spot in the rather dark outlook of the stock-breeder. With moderate roots, a decided shortage of straw and hay, and a plant of young Clover much below the average, his prospects are anything but bright. Let us hope he will put his shoulder to the wheel, and not allow our national flocks and herds to decrease. There seems to be very little hope in the future for the grower of cereals, at any rate for some time to come. If prices rise for a few weeks, they soon return to their old level, and the rise usually occurs when there is little English grain in the market. Were it not that the straw is so necessary for the feeding and comfort of farm animals, the acreage of grain crops would be still further restricted.

Potato growing has, on the whole, been profitable; a result which may be traced to the introduction of one or two very fine new varieties. We are confident that Mr. Findlay's Up-to-Date has been an immense boon to Potato growers, and the most direct benefit to agriculture that has been produced for many years. May our Markinch friend long be spared to win even greater triumphs! There was much truth in Mr. Rider Haggard's contention that in the increase of small holdings lay one of the solutions of the agricultural problem. He was also near the mark when he spoke of the comparative prosperity of the Potato-growing districts. There is no doubt they have not been so hard hit as others.

Though labour has been more plentiful last autumn, and wages a little easier at the hirings, we hardly think farmers are yet out of their troubles in this connection. On the contrary, we foresee at the next favourable opportunity an agitation for the curtailment of working hours on Saturdays. We have lately had excellent opportunity of ascertaining the views of farm labourers, and find this to be a very favourite subject for discussion amongst themselves. They will not admit that their services cannot be spared on Saturday afternoons, or that the farmer cannot afford to pay the present wage for less work; but point to workmen employed at other occupations going home on Saturdays at midday, and receiving higher wages than they do. The older men, who have been brought up to it and accustomed to it, will not move in the matter; but the young ones will, if they stop on the land.

We cannot say that the new year opens with any great promise for the farming interest. There are few arrears of work, and there should be a good Wheat plant; but, as we have said, though animals are healthy, food is scarce and dear. Much depends, as it always does, on the summer weather. If we should be favoured with sunshine and showers in due proportion, and a fine return in Corn, straw, and hay, a better time for farmers will follow. But the

latter must not be slack in taking up every favourable chance of sowing, for "If a man will not sow, neither shall he reap." It is with the earnest hope that better things may be in store that we wish our readers a happy and prosperous year.

Work on the Home Farm.

During the week we have had all kinds of weather, including 15deg of frost, and we are still kept off the land. It has been too rough and stormy for threshing, which is getting into arrears, and the horses which have not been engaged in delivering Potatoes have been carting manure when not required to cart Turnips, hay, or straw for the live stock. It has not been an ideal Christmas—cold but dirty; uncomfortable, but in no wise picturesque or Christmas-like. On one or two days the roadways were like sheets of glass, and it was only with great difficulty that horses could reach the blacksmiths to be roughed up or have studded shoes put on. We saw an in-foal mare being dragged to the shop for such a purpose. She was skating about and running great risk of a serious fall or strain. At our suggestion the man in charge led her on to the sanded causeway, the risk of prosecution being the lesser evil of the two. It is very unwise to work a breeding mare in such weather, but if her services were absolutely necessary, she would have walked comfortably to the blacksmith if a piece of bagging had been tied round each foot. A large number of horses are now fitted with studs, which can be easily removed and renewed. A fortnight's slippery weather has caused such a demand for these studs that they have been almost unobtainable. A blacksmith tells us that he has attended to 150 horses in one day of about fifteen hours. Good for trade, but very monotonous and tiring work.

Sheep have not suffered much from the weather, as lair has been fairly good and Turnips have never been very hard; but they have required an extra supply of dry food, which is an additional drain on the hay and straw. We notice rather numerous consignments of hay and clover leaving the local station, and hear that for a very fine sample of the latter the price approached 140s. per ton. A farmer can hardly be blamed for realising at such a price in these days of dear money, but it is to be hoped that he will increase his purchases of cake and manures.

The great value of covered yards is increasingly apparent as one dry season follows another. What the state of our national herds might now have been without the litter-saving influence of the great number of sheds now in existence all over the country no one can say, but we have some idea. A heavy stock of cattle is now a natural consequence of the roofing in of fold-yards.

Sugar Beet Cultivation, 1901.

The Earl of Denbigh has, during the year 1901, continued the experiments made in the growth of Sugar Beet on the Home Farm, at Newnham Paddox, in the county of Warwick, and the result is as favourable as in previous seasons. His lordship further considered that it would be very desirable to show what the result would be with Sugar Beet grown in the ordinary course of cultivation for root crops by some of the tenants on his estate in Warwickshire, and it was arranged that four occupiers of land should each grow one half-acre of Sugar Beet in the same field, and under the same cultivation as a crop of Mangolds. In the early part of this last season the weather was not favourable for roots, and the seed was a long time in starting, and, for the most part, the plants came up very irregularly; but, notwithstanding this, the crops have turned out very satisfactorily, and it may interest all those interested in agriculture to hear the result. The tenants who undertook to carry out the experiments were Mr. James L. Harrison, of Pailton Fields; Mr. William Kenney of Brockhurst; Mr. J. Parker Toone, of High Cross; and Mr. John Wright, of the Kirby Manor Farm. The roots were analysed by Mr. Sigmund Stein, of Liverpool, so well known for the great interest he has always taken in promoting the cultivation of Sugar Beet, and he furnishes a report, one part of which we print:—Name of grower, J. Harrison; seed from Klein Wanzleben; degrees brix (dry matter), 21.10; specific gravity, 1.088; quantity of sugar in 100 parts of the juice, 18.50; quantity of non-sugar in 100 parts of the juice, 2.60; quotient of purity, 87.67; quantity of sugar in 100 parts of the roots, 17.80; shape of roots, very well shaped roots; remarks by Mr. Sigmund Stein: These well-shaped roots compare very favourably with German-grown roots, to which they are superior in every respect. When the above analysis is compared with that of the roots grown in Germany, it will be seen how much superior the roots grown in England are to those grown in Germany, but this will be shown more clearly if the value of the roots per ton is considered, and calculated on the data given by Dr. Carl Stammer, the German roots would be worth for the manufacture of sugar 17s. a ton, but those grown by Mr. J. L. Harrison 27s. a ton, by Mr. William Kenney 26s. 9d., Mr. J. Parker Toone 25s., and Mr. John Wright 27s. We would advise those interested in this matter to apply for a full report to Henry H. Cave, Estate Office, Rugby.

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Journal of Horticulture.

THURSDAY, JANUARY 9, 1902.

Gardeners' Royal Benevolent Institution.

IN these opening years of the new century, Horticulture advances along its varied and now well-defined lines or sectional phases, seeming to alienate from the practitioners in divers branches that feeling of sympathetic fraternal co-operation that was woven subtly, but strong and real, when the men of our present expansive calling stood in nearer relations to one another than they do to-day. But there is, and must always be, that feeling of dependence, direct in some cases, indirect in others, which will distinguish itself to those engaged in the manifold pursuits under the archetype or ægis of Horticulture. And as most of us are true and loyal patriots in that which concerns our national political welfare, so, too, are we bonded by special sentiments to our technical confrères.

The approach of the annual general meeting of the Gardeners' Royal Benevolent Institution turns our thoughts to this charitable society, whose existence is for the relief of aged, distressed, and permanently disabled private and market gardeners, nurserymen, seedsmen, their necessitous widows, and others who have been engaged in horticultural pursuits. Here, at once, our whole brotherhood is linked by the ties of charity. It is the happy privilege of all who profess fraternal sympathy, or a love for gardens and gardening, to assist their associates, or employés, as the case may be, by monetary donations to this Institution, according to their worldly provision.

The Gardeners' Royal Benevolent Institution was founded in the Coronation year of our late Queen Victoria. It is thus in its

READERS are requested to send notices of Gardening Appointments or Notes of Horticultural Interest, intimations of Meetings, Queries, and all Articles for Publication, officially to "THE EDITOR" at 12, Mitre Court Chambers, Fleet Street, London, E.C., and to no other person and to no other address.

sixty-fourth year of usefulness. During all this lengthened period the Institution has provided permanent relief by means of its pensions to distressed and aged gardeners. The annual pension given to men amounts to £20, and to gardeners' widows £16. Since 1838 the Gardeners' Royal Benevolent Institution has expended no less a sum than £84,000. Even now there are, or were at the beginning of last year, 181 persons receiving annuities for life. At the annual general meeting, to be held on the 23rd instant, twenty fresh pensioners are to be added. Twelve of these, having subscribed for fifteen years, and having in every way complied with the regulations of the Institution, will be placed on the funds without election, and the remaining eight are elected by votes from amid thirty-three other applicants. Many of those who annually come forward supplicating assistance have never contributed to the funds, and naturally, unless their case is one of extreme necessity, and can be made known to the electors, the votes polled in their favour are few. On the other hand, the committee are empowered by the rules to credit any candidate who has paid, say, four years' subscriptions, with fifty votes previous to an election; if eight years' subscriptions have been contributed, 250 votes are accredited; and so on ascendingly, till 550 votes are given to any person who has paid fourteen years' subscriptions. Thus the Institution inculcates the principle of self-help, and to a certain extent, which is only reasonable and just, favours those who have done their best to help themselves.

Certain amendments to the fifth and tenth subsections of Rule III. will be proposed at the coming annual general meeting, which, if agreed to, will entitle all eligible candidates who have been annual subscribers, or the widows of such, to receive 100 votes for each yearly guinea subscribed. A fifteen years' subscriber would thus have 1,500 votes, which, with those he might expect to have polled in his favour, would, under the present conditions, ensure his election. Under the same rule, a life member will be entitled to 100 votes for each year of life membership for ten years, being 1,000 votes for the ten guineas; and, by payment of twenty guineas, be entitled to 200 votes per year for ten years. These proposed alterations must, and will, demand discussion, but there is no doubt that if passed they will contribute greatly to the augmentation of the funds, without a corresponding demand for a relatively larger amount of pensions.

Yet while many who subscribe cannot guarantee health or continued income, we trust that there are few who furnish donations with the intention of qualifying purely and simply for a pension. We would urge every gardener to assist the Institution, first, because he is a gardener, and therefore more bound than others to assist his fellow-craftsmen; secondly, because a very little from each person would compile a big total, sufficient to provide for ALL necessitous cases, instead of, as at present, only a comparatively few. We may modestly estimate that there are 30,000 professional gardeners in Great Britain and Ireland. Of these, 1,000 might well manage to send one guinea to the Secretary, at 175, Victoria Street, Westminster, London; 12,000 could afford 5s. each; and the remaining 17,000 could all manage 1s. apiece, the total, as here stated, amounting to £4,900. If any one inquires how we estimate 30,000 gardeners (which must be a long way under the correct census), we would point to the fact that 13,000 addresses are given in the "Horticultural Directory," and these only represent the names of head gardeners, where a staff of two or more assistants are kept. Yet while the above might be raised from among working gardeners alone, any year and every year, we are constantly told that gardeners are loath to subscribe, and their assistance is but meagre.

We feel sure that this matter has not been discussed sufficiently amongst gardeners themselves. Would it not be well to devote more attention to gardening charities at the

various horticultural societies' meetings? Collection boxes are provided in some instances known to us, and never is a meeting held that those present do not drop a few pence at least into these boxes. The action of committees of flower shows in devoting a booth or stall to the sale of flowers (brought by permission from neighbouring gardens) is highly commendable, and we feel sure the feature will become a part of all local shows. This matter, too, might be discussed at gardeners' meetings. Considerable amounts have been raised as gate-takings by the agents of those generous owners of large and beautiful gardens who have allowed the public to enter on paying a minor charge. Here again gardeners in a neighbourhood could petition a landed gentleman through their society and be effective, where the head gardener or estate agent might not care to make personal advances. There are, however, very many ways in which gardeners can assist this Institution, that exists, as we have already stated, to provide for the distressed amongst them; and work that lies at one's hand ought not to be passed over.



Cypripedium Spicerianum.

A delightful story of Fostermann's search for this Orchid is told in Mr. Frederick Boyle's book, entitled "The Woodlands-Orchids," of which we furnished a notice in our last issue, and, indeed, told the story of the ultimate finding of the species (see page 10). "The annals of *C. Spicerianum*," says Mr. Boyle, "open in 1878, when Mrs. Spicer, a lady residing at Wimbledon, asked Messrs. Veitch to come and see a curious flower—very lovely, as she thought—which had made its appearance in her greenhouse. Messrs. Veitch went, with no extravagant hopes, perhaps, for experience might well make them distrustful of feminine enthusiasm. But in this instance it was more than justified, and, in short, they carried off the marvel, leaving a cheque for seventy guineas behind. I may remark," continues the author, "that *Cypripeds* are easy to cultivate. They are also quick to increase. Messrs. Veitch hurried their specimen along, and divided it as fast as was safe. To say that the morsels fetched their weight in gold would be the reverse of exaggeration—mere bathos." The writer then goes on to describe the steps that were taken to find out where its natural habitat was, and to send collectors after it. The first plant had come along with a batch of *C. insigne*. Messrs. Sanders sent out Fostermann, who, after a considerable amount of varied experience, in which, among other things, he had to hunt and shoot a tiger to clear a certain district through which his route lay, found *C. Spicerianum* clinging in masses to rocks by the sides of a stream among the mountains of Bhutan in India. By his efforts, 40,000 plants of this attractive and free flowering species were offered at Stevens' Auction Rooms on March 9, 1884. The flowers, of which our illustration shows the natural size, are of medium proportions; dorsal sepal pure white and green at the base, with median purple stripe. The petals are pale green, mottled and marked with purple; while the lip is brownish purple. The scapes are 8in to 15in high; foliage green. The species is now in flower.

The Week's Cultural Notes.

The deciduous section of *Dendrobiums*, like *D. Wardianum*, *D. Devonianum*, *D. crassinode*, and *D. Bensoniæ*, are not usually very long lived under cultivation, but if more care were taken with the plants when newly imported, they would at least obtain a good hold upon the home of their adoption the first season, and this would give them a better chance than they often get. No Orchid can be considered in a fair way to continued health if it is swaying about in its pot or basket; it must be so firmly fixed that it cannot be rocked, and with plants of the habit of those mentioned above this is often a difficult matter when the usual style of potting is adopted.

The long (often pendulous) pseudo-bulbs are a considerable weight when fully matured, and no matter how carefully the compost may be placed it will usually be loosened more or less by the end of the season. To prevent this I have found it an excellent plan to tie the plants firmly to small wooden or cork blocks, and let these into the pots or baskets. As these decay their room may be filled up with peat and moss, and the roots that are annually produced from the base or the bulbs are

strengthened and assisted as they root into it, the blocks meanwhile steadying the plants in position.

When fixing the block in the pot or basket the part where the plant is fastened to should be just level with the surface of the compost. The eyes, then, as they start, will be clear, and in case of an overdose of moisture, will not be so likely to decay as they would be if covered with peat and moss. Although I have specially mentioned the deciduous Dendrobiums, there are few Orchids that would not be benefited by this method of establishing provided the time can be found for it.

Musk Melons.

The Musk Melon of America is a fruit much enjoyed by our brothers across the Atlantic, and in the summer time the New York markets do a thriving trade in this delicious fruit. They are grown by the fruit farmers of Long Island and New Jersey in large quantities, who cultivate them by the acre much in the same way as their Sweet Corn is grown. Perhaps their mode of cultivation of the Musk Melon will be interesting to the readers



CYPRIPEDIUM SPICERIANUM.

FIRST SENT HOME FROM BHUTAN BY SPICER, A
TEA PLANTER, AMONGST A CONSIGNMENT OF
C. INSIGNE, IN THE YEAR 1878.

When labour is limited most of the pseudo-bulbous division do well if potted up in clean crocks, the plants tied firmly to a stake to hold them in position, and the crocks placed right up to the base of the pseudo-bulbs. Water may be applied freely and frequently in this case, as it runs away at once, while if peat and moss were provided this would hold moisture, to the detriment of the young roots when they appear. After the plants start growing the peat and moss must, of course, be added, and the treatment gradually altered to that for established plants, except that imported plants like rather more heat than those that have been a year or two in cultivation.—H. R. R.

of the Journal. Their first point is the soil and location, choosing a rich, warm, and somewhat sandy loam, having an exposure in which it can catch the first and last rays of sunshine. It is then ploughed in the autumn and cross-ploughed in the spring, after spreading the surface thickly over with well-rotted farmyard manure. It is then well harrowed and marked out into beds 6ft apart each way.

On each bed is formed what the Americans term "hills"—a small elevation of the soil about twice the size of a molehill. After mixing with each hill a good shovelful of fine manure and a handful of guano, five or six seeds are sown per hill, this being done during the early part of May and, for succession, till the

end of June. As soon as the Vine begins to run the terminal bud is pinched off, causing the laterals to branch out, which are encouraged as much as possible, as it is from these the crop is obtained. The soil is kept well open by constant attention.

The season for marketing the ripe fruit is from July to October, during which time the Musk Melon is a favourite dish of rich and poor alike, and truckloads are to be seen in the streets of New York, the price ranging from ten cents upwards. To visit one of these Musk Melon fields when the fruit is ripe is a treat in itself, followed up with a good "tuck in" as tangible proof of their goodness; and I will say the Yankees are very generous in this respect, always allowing the visitor to "taste and see."

The varieties of the Musk Melon are numerous, and if more than one sort is grown very great care is taken to have each variety as far away from each other as possible so as not to cause improper crossing, which causes poorness of crop, and affects the crop for the following season should the seed be saved. The farmer is, therefore, extremely careful to grow only really proved fixed varieties, such as the Hackensack, the earliest variety, with green skin and flesh, beautifully netted, the flavour of which is rich and sweet. The Baltimore is also a great favourite with the best hotels. It is an oblong, thick, green-fleshed sort, and very juicy.

The largest is perhaps the one called the Montreal, a round variety, deeply ribbed, the skin and flesh being also green. It will often turn the scales at 20lb, and is none the worse for its large size. The profit of the Musk Melon crop is a good one, the farmer often realising 1,000dols, or, in our money, £250, per acre. Of course, earliness is aimed at by the growers, as the first in the market obtain the best prices. Being a fruit which travels well, it is shipped to the large towns of America, packed in barrels, and it is seldom they take any harm. The summer of America is a long one, and naturally brings success to the Musk Melon cultivator, who has become efficient by long experience and skill.—H. KITLEY.

The Journal of the Royal Horticultural Society.

The Journal of our Royal Horticultural Society undoubtedly grows in value. What an interesting series they are from first to last, and of course the earlier volumes are yearly becoming more precious.

Parts 2 and 3 of volume xxvi. was published three weeks ago. It has been well said elsewhere that these quarterly Journals alone are worth far more than the annual subscription of one guinea. So emphatic are we ourselves on this point that we feel sure if gardeners in the country only knew the true value of the volumes, two-thirds of them at least would be Fellows of the Royal Horticultural Society within a month. Here we have the highest talent swooped into one book, and each individual treating on subjects he is a specialist in.

Colonel Wheatley, C.B., R.E., contributes a long and interesting paper on "The London Parks." Provincial readers as a rule have great respect for the bedding and general arrangements of London parks, and by them especially Colonel Wheatley's useful and thorough essay should be read with keen appreciation.

Then comes a résumé of Professor George Henslow's lectures, delivered mainly for the benefit of the students in the Society's gardens at Chiswick, last summer. We had the opportunity to attend these lectures, and can testify to their high utility and most interesting form.

Professor Henslow is both original in his deductions (or a great many of them) and states subtle botanical knowledge in a manner that proves as attractive as a well-told fairy-tale. Truths told in his way linger in the lay mind. His subjects as given at Chiswick are:—"Propagation Without Seeds"; "How Plants Climb"; "Awakening of Buds, Sleeping of Leaves"; and, lastly, "Injuries from Fog and Smoke," which is specially apposite for London horticulturists at this moment.

The late Rev. Henry Ewbank, M.A., V.M.H., furnishes thoughts on the "Oncocyclis Irises," and this was probably his last extended essay on Irises. Mr. J. Hogg, of Haarlem, follows with a short essay entitled, "Experiments with Oncocyclis Irises."

This volume is of very special value in view of the Lily Conference Report it embodies, and which opens with Mr. J. G. Baker's paper on the new species introduced since 1880. All the various papers, of which we gave summarised reports at the time of the Conference, appear in full. A certain book on Lilies recently was published at the price of 8s. 6d. Here, in the R.H.S. Journal, is an extensive and valuable record treating on all phases of the subject of Lilies, together with the numerous other splendid articles, and can be had by Non-Fellows for 7s. 6d.!

We must not conclude without noticing Mr. Arthur William Paul's (William Paul and Son) paper on "Roses for Autumn Flowering"; Mr. Charles G. Wyatt's essay on "The Cactus Dahlia"; "Vines and Wine-making at the Paris Exhibition," by Sir James Blyth, Bart.; interesting "Common-Place Notes," by

the Secretary and the Superintendent and numerous other contributions equally deserving of an extended notice. The best we can do, however, is to advise the purchase of the R.H.S. Journal.

The publication has, perhaps, a more varied class of readers than some of us imagine; and we think the Editor, the Rev. W. Wilks, does quite right in providing a varied fare—we refer to the inclusion of scientific, as well as the practical notes, in the "Abstracts." The tail-pieces ought, however, to be considered, and perhaps removed. The illustrations from contemporary journalism enliven the Society's Journal, and as these represent the novelties of the months, where is the necessity for the Society to produce blocks of its own? From what we have said above, it will be seen that we place a high value on this Journal, and on the work of its Editor.

English Fruit Growers and Foreign Competition.

At the end of last week we received from a correspondent the following letter, which appeared in "The Times" on December 27, 1901. Our correspondent adds, "Please assist the English fruit-grower," and surely we will with all our heart. The letter is given herewith:—

Facts about Jam.

"Mr. Rider Haggard favours small holdings for the growing of Strawberries and small fruits, which would tend to lessen the foreigners' bill for these kinds of fruit they send to us, but some critics want to contend that we only import Strawberries in bulk from France, and these only received up to the moment that ours are ready, consequently no harm is done to the British grower. Let me correct these critics and say we get Strawberries, Raspberries, and Currants not only from France, but also from Holland and Belgium—Plums also from Germany—at the same time that ours are on the market, which are sold for the jam pot, and not for dessert, 25 per cent. at least cheaper than our home-grown; the same countries are also pulping and sending to us their fruits in larger quantities than formerly. Notwithstanding this, it would be suicidal to try to check the importation of this foreign fruit—by all means let it come in abundance and so give the poor man a chance of cheap jam; but when it arrives on this side let the English fruit-grower—and I am one—have fair play. Foreign and English fruit is classed alike by many of our large jam manufacturers—that is, they make no distinction in the labelling of the jam pots; it is all labelled 'Made of best selected fruit.' Comment as to which is the better flavour, and which has the most nutritive qualities, is unnecessary. The small steamers carrying this Continental fruit are not like the large ocean liners fitted with cool chambers, consequently, in order that the fruit may have the necessary air and ventilation, it comes as deck cargo, and by so doing frequently gets a good soaking of heaven's rain or sea-water. A considerable weight of such fruit has this past season been condemned as unfit for human consumption. Just imagine the harm this inferior deck cargo fruit, with a journey of two or three days, being made into jam and labelled 'Best selected,' does the English grower. Mr. Hanbury, M.P., President of the Board of Agriculture, at the dinner of the Farmers' Club, when speaking of our declining agriculture, said the time had come when the policy of letting everything slide—of the Government practically leaving everything to sink or swim—would have to be abandoned, for in all our industries alike the Government would have to take a much more practical interest in these matters than had hitherto been the case. Mr. Gladstone was right in recommending jam-making, but it is the system of the labelling that is wrong. It is possible to put this right, and when it is, England's fruit-growing industry will grow by leaps and bounds, finding profitable and congenial occupation for our boys. Mr. Rider Haggard says there are thousands of acres in this country of suitable land not yet planted. I quite believe him.—FRUIT-GROWER."

This letter is a materialisation of the sentiments of all our English fruit-growers. Why do not the leading members in the ranks of this great fruit-growing army promptly amalgamate, discuss the whole question of foreign competition, of railway rates, commissions, and other pressing factors in connection with their business, and resolve on what can best be done? A feeble cry or piece of writing here and there in the Press is never the way to get grievances adjusted—where grievances exist. Only by strong united action, coupled with insistence, and a plain, clear record of facts, with directions for likely remedies, can our commercial fruit-growers hope to have the great strain lessened. Let them in the meantime cultivate the very best fruit; this usually finds a place waiting in all markets. Competition ought to ensure this. If it does it will be a good thing. Many of our home growers are lamentably behind both in culture and in marketing. Let them come up to the highest standard of excellence on these points, and so make their fruits, and the jams from them, so very superior to jams made from foreign fruit, that the former cannot fail to be noted for its unmistakeably higher excellence.

NOTES

NOTICES

Honour to M. Victor Lemoine.

This eminent horticulturist, of the well-known firm at Nancy, has, we are pleased to learn, been elected an honorary member of the National Horticultural Society of France, at their meeting on December 12. This is the second French horticulturist who has been attributed this dignity. We agree with "Le Jardin" in saying that "The vote of the National Society [of France] will be ratified by all those who know the work and the high standing of M. Lemoine."

Wells' Chrysanthemums.

As usual at this season, Messrs. Wells and Co., Earlswood Nurseries, Redhill, Surrey, have published a large sheet illustrated with new Chrysanthemum photographs. The varieties are such as they have so splendidly exhibited at many shows during the last season. They include Mrs. R. McKinley, Lord Ludlow, Mrs. C. J. Salter, C. J. Salter, Matthew Smith, Claremont, Guy Hamilton, Madame Herrewége, Mrs. T. W. Pockett, Charles Longley, Lord Alverstone, T. Humphreys, Ben Wells, Mrs. E. Thirkell, Henry Barnes, and Goacher's Crimson.

A Corps of Trained Judges.

A Texas grower of Chrysanthemums urges cultivators throughout the United States to adhere strictly to the Chrysanthemum Society of America and its scale of points for judging. He, at the same time, suggests that the society's scale is in need of slight revision, and advocates that "This society [above named] should endeavour to establish a corps of trained judges for Chrysanthemum shows, men who have been properly examined for their qualifications to perform such work, and then to be recommended to societies holding shows all over the land." He adds: "I am satisfied there are many people who attempt judging every year who are positively hurting the progress so much desired"—which opens up a subject well worthy of discussion in our own country.

Gardening Appointments.

Our contributor, "Nil Desperandum," who won a gold-mounted fountain-pen by his writings in the "Young Gardeners' Domain," announces the good news of his appointment as follows:—Mr. Geo. Maxey, for nearly four years foreman at Denton Park, Ben-Rhydding, Yorks, has succeeded Mr. Robert Sinclair as head gardener there." Now the real cares and responsibilities begin, and "An Old Boy's" letters, now appearing in the "Domain," will be read with additional interest. * * * Mr. J. Balmforth, late head gardener, Cranmore Place, Chislehurst, Kent, as head gardener to Neville Clegg, Esq., Oldfield Brow, Altrincham, Cheshire. * * * Mr. W. H. Miles has succeeded Mr. V. List as head gardener to Chas. Bathurst, Esq., of Lydney Park, Lydney, Glos.

Trade Notes.

Barr's Illustrated Seed Guide has been sent out. It is arranged alphabetically, to facilitate ready reference. On page 22 some practical hints on the raising of flower seeds are given which will be found generally useful. A fine list of novelties and specialities for 1902 will be found on pages 23-24, while in the body of catalogue the best in kitchen and flower garden seeds are tabulated. A list of useful gardening books is given on page 111 and 112. * * * A handsome Souvenir Illustrated Blotter has been published by Messrs. Watkins and Simpson, seedsmen, 12, Tavistock Street, Strand, London, as a memento on the occasion of the semi-jubilee. Many interesting views of their seed-warehouses, shops, and nurseries are furnished. * * * Messrs. R. H. Bath, Limited, The Floral Farms, Wisbech, publish, at the price of 2s. 6d., post free, a book of verses under the general title of "The Procession of the Months." The poetry is by Beatrice Crane, with appropriate designs by Walter Crane. The publication is in grey paper covers, with rich yellow cord binding the pages together. The work is intended as a suitable gift to lovers of the garden.

The Rosarian's Year Book.

This charming annual again appears, and still bears the honoured name of Rev. H. Honeywood D'Ombraim, V.M.H., as its editor. A remarkably fine photograph of Mr. O. G. Orpen is provided in the forefront, this being a true photographic print, trimmed, and pasted on to the page. As we will have something further to state about the Year Book in our next issue, we will meanwhile rest content with this brief announcement. Miss Jekyll, Rev. Foster Melliar, Rev. J. H. Pemberton, Mr. Mawley, Mr. B. E. Cant, Mr. George Paul, and the Poet Laureate, and the Editor, all contribute to its pages.

Ipswich Gardeners.

The first session for 1902 opened on January 2, with a paper from Mr. W. Chandler on "Three Good Winter Flowering Plants." The other papers are:—January 16, Floriculture and Florists of the Past Fifty Years, Mr. Richard Dean, V.M.H., Ealing, London, W.; January 30, Annual Meeting (see rule 4); February 6, Discussion—also two prizes value 5s. and 2s. 6d., will be awarded for two best Essays on Vegetables, written by under-gardeners (those wishing to compete should obtain particulars of the Hon. Secretary); February 20, "A Few Seasonable Notes on Hardy Fruits," Mr. W. Messenger, Wolverstone Park Gardens; March 6, "Cyclamens," Mr. Creek, The Chantry Gardens; "Primulas," Mr. Whittel, Pinetofts Gardens; March 20, "Calceolarias," Mr. F. W. Salmon, gardener to Mrs. Sims; "Cinerarias," Mr. G. Garnham, gardener to F. Corder, Esq. The meetings are held in the Co-operative Hall, Carr Street, Ipswich, at 7.30 p.m. The Hon. Secretary is Mr. W. E. Close, Holy Wells Gardens.

"The Horticultural Directory."

For the forty-third year this useful directory to the names and addresses of gardeners, nurserymen, seedsmen, and others engaged under Horticulture, has once again been issued. The greatest pains and efforts are taken to maintain it up-to-date and as correct as possible. So many as 878 changes in gardeners' addresses have been made; 200 additional residences, and the titles and addresses of seventy additional horticultural societies have been added; and fifty-one fresh names of nurserymen, landscape gardeners, and horticultural builders are likewise included. The nurserymen's list, we may add, is representative of well-established firms. Though post-cards are sent to all that there was any doubt about, the Editor has yet deleted ninety-three old addresses through being unable to obtain reliable information desired by him. Numerous alterations (from particulars received) anent stations, post towns, and distances between these and the country residences have been furnished, and due note taken of the change of proprietorship where the gardeners have still been maintained. To keep the "Horticultural Directory" in its present very reliable state, we invite the assistance of our readers, and all those into whose hands copies of the publication may pass.

The Gardeners' Royal Benevolent Institution.

Notice is hereby given, that a general meeting of the Gardeners' Royal Benevolent Institution will be held at "Simpson's," 101, Strand, W.C., in the County of Middlesex, on Thursday, January 23, 1902, at 1 p.m., for the purpose of making certain alterations in the existing rules, as recommended by the committee of management. The sixty-third annual general meeting of the members of this Institution will be held at the same place and on the same date at 3 p.m., to receive the report of the committee and the accounts of the Institution (as audited) for the year 1901; to elect officers for the year 1902, and other affairs; and also for the purpose of placing twenty pensioners on the funds. The chair will be taken by Harry J. Veitch, Esq., Treasurer and Chairman of Committee, at 3 o'clock. The poll will open at 3.15 o'clock and close at 4.30 o'clock precisely, after which hour no voting papers can be received. All the voting papers have been issued. If any subscriber has not received a copy it is particularly requested that intimation be sent at once to the Secretary, Mr. G. J. Ingram, at the offices, 175, Victoria Street, Westminster, S.W. The annual friendly supper will take place on the same date, also at "Simpson's," after the annual general meeting, at 6 p.m., when Alderman Robert Piper (of Worthing) will preside. Friends desiring to be present are asked to kindly notify the secretary.

Mr. Molyneux's Chrysanthemum Analysis.

Many inquiries have been made as to when Mr. E. Molyneux's useful analysis will appear. We are able to promise that this annual contribution to the Journal will be forthcoming immediately. It would be of benefit to us, and to everyone in connection, if readers would kindly announce the fact to their Chrysanthemum-growing friends.

"Le Jardin."

Our French contemporary is dedicated on this, its fifteenth year, to M. Leon Vassillière, Director to the French Board of Agriculture, Commandeur de la Légion d'Honneur, Commandeur du Mérite Agricole, and Officier de l'Instruction Publique, &c. A portrait of him appears, together with a short biographical sketch. He is "a great friend of horticulture and the horticulturists," hence the dedication.

Plough Monday.

"As a constant reader of the Journal, may I ask the writer of 'An Observer's Notes,' page 21, to explain for the benefit of others as well as myself, why 'Plough Monday' falls on a Tuesday this year? Of course, I should not like to suggest that this chronicler of events may have overstepped the bounds of discretion during the recent festive season! And he will be able, I doubt not, to clear up the mystery through the columns of the Journal in a subsequent issue, and so satisfy the curiosity of—T. R. S." Such is the letter we received on Monday last. Having inquired of "the Observer," he replies that the vigour of the Lilac's growth must have pushed Plough Monday a day behind! For solution see page 21 last week, but those who do not file their Journals must not write for one, last week's being now out of print—which sign is healthy.

"The Suburban Garden."

This is the title of a little book recently published by Messrs. Low, Sampson, Marston, and Co., St. Dunstan's House, London, price 3s. 6d. The authoress dedicates her book to "All who love gardens." In her preface, which tells how the book came to be written, that "A good many people would take more interest in their gardens if they had something definite to start on." The first part of the book describes the making of a garden, and suitable plants for it have been named. She has been at pains to show not only what to plant, but also what *not* to plant. The second part deals with small suburban gardens generally, and an attempt has been made to show how the best effects can be gained. No detail has been considered too trifling. The garden described comes within the six-miles radius from Charing Cross. In size it is about half an acre, and the complete transformation from no garden at all to a very pretty retreat, that is made of this area, furnishes pleasant reading. There are 263 pages (6½in by 4½in) clearly printed, and bound in ivory white covers, very stoutly. The book may be recommended to the leisured amateur who is uninitiated in the gentle art of gardening.

"Culture of Vegetables and Flowers."

Every professional gardener and thousands of gardening amateurs must have read and gained instruction from this very practical, thorough, and highly interesting book. We recall with the greatest pleasure our early days, when Sutton's book on vegetables and flowers was often taken from the book-case and its passages studied with very great attention. The article on Phloxes has been the means of causing one good old soul to prepare a proper border against a sunny wall, and to place sturdy specimens of the beautiful summer and autumn flowering varieties in place of Sorrel, Tarragon, and Thyme that half-lived, half-died before that time. A tenth edition is now "out," and appears bulkier than hitherto, but has now reached just a nice, convenient size. The stout, firm binding is wax-red in colour, with gilt title. The culture of all vegetables is given; also the year's work; rotation and chemistry of crops; "flowers all the year round"; insect and fungus pests; and other chapters. We say, as we have said before, that the matter is both compact and comprehensive, and within the 433 pages the reader will find an enormous amount of useful information. It is in every way creditable to the house of Sutton, and more need not be said. The price is five shillings, from Sutton's or through all book-sellers.

Lilies at the Cape.

The "Cape Times" for Wednesday, December 11, 1901, contained a long and able article from the pen of our friend, Mr. Peter Barr, V.M.H. He is already imbued with a knowledge of the general physical conditions of the Cape districts, and writes authoritatively. During his long journey his influence in directing thoughts to horticulture has been very evident. This, the Mother Country, has been honoured through him, and owes Mr. Barr congratulatory returns.

Sussex Weather.

The total rainfall at Abbots Leigh, Haywards Heath, for the past month was 5.08in, being 2.29in above the average. The heaviest fall was 1.48in on the 12th. Rain fell on seventeen days. The total rainfall for the year was 24.95in—4.98in below the average. The heavy rainfall of December has brought the total up to one inch above the previous shortest record in twenty-two years, viz., that of 1898. The maximum temperature was 53deg on the 8th, the minimum 23deg on the 25th. Mean maximum, 43.05deg; mean minimum, 33.06deg; mean temperature, 38.05deg, which is 0.50deg above the average. The old year passed away in wet, stormy weather, but remarkably mild—the shade temperature in the last three days and the first three of the new year exceeded 50deg.—R. I.

Rainfall in 1901 at Temple House Gardens, Berks.

Mr. G. Groves sends us a statement of the year's rainfall in his part of Berkshire. The diameter of the funnel of the rain-gauge is 5in; it is 1ft above ground and 105.9ft above sea-level. The rainiest months were April, with 2.57in (total depth); July, 2.38in; August, 2.35in; October, 2.19in; and December, with as much as 3.60in. The driest months were May (0.60), and November (0.43). The greatest fall of rain in twenty-four hours occurred on February 4, when 0.99 of an inch was recorded. On October 16 0.98in was noted. March and April both had rain on seventeen days; December eighteen days; but October was oftenest wet, rain falling on twenty different days. The total number of days on which 0.01 or more fell, was 164. The total depth, in inches, of the year's rain was 20.85in; the average rainfall there being 27.50in.

Weather at Belvoir Castle, Grantham, 1901.

The wind during December was in the S.W. 15 days. The total rainfall was 4.49in, a large proportion of which came in the form of snow; it fell on twenty-one days, and is 2.41in above the average for the month; the greatest daily fall was 1.46in (snow) on the 12th. Barometer (corrected and reduced): highest reading 30.440in on the 4th, at 9 a.m.; lowest reading, 28.742in, on the 24th, at 9 p.m. Thermometers: highest in the shade, 55deg, on the 7th; lowest, 9deg, on the 20th; mean of daily maxima, 42.41deg; mean of daily minima, 31.61deg; mean temperature of the month, 37.01deg; lowest on the grass, 8deg, on the 20th; highest in the sun, 80deg, on the 31st; mean temperature of the earth at 3ft, 41.25deg. Total sunshine, 65hrs 30min, which is 18hrs 27min above the average for the month; there were eight sunless days.—W. H. DIVERS.

Gardeners' "Lodges."

It is appropriate to quote a passage from Loudon under his "Statistics of Gardening" this week, as bearing on the subject of which our leader deals. The famous author says: "There are few gardeners' lodges in England; the only one of which we have been able to obtain any distinct account is 'Adam's Lodge, of London,' founded June 4, 1781. This lodge is described in the rules as a 'Fraternity or community for improving the art of gardening; to establish a fund for the mutual support and relief of each other in the time of sickness, lameness, or distress; and also [and this to us nowadays is very interesting] to ascertain the characters and abilities of such gardeners who shall belong to or may be recommended by this society, to obviate the difficulty so often complained of by the nobility, gentry, and others, of obtaining skilful and experienced persons to undertake the employment." Loudon concludes thus: "At present [1824] it consists of about one hundred and fifty members, and is on the decline. The allowance to the sick or disabled has been gradually diminished from insufficiency of funds." The latter sentences contain a moral for all of us.

Dinner-table Decorations.

Fashion in regard to dinner-table decorations passes through almost as many fleeting changes as the personal adornments of the fair ladies of the land. It is not often that the provincial gardener "sets the fashion"—even in the former case—no matter how important his charge may be. Some style which is the "rage in London" is brought to his notice, with the request that he should do his best to imitate it. It is seldom, however, that the gardener of taste is bound down very closely to the details of any particular style, as an hostess is usually delighted to see on her own table a London idea improved upon, or an original style adopted. My experience has always been that a gardener having artistic taste, and a fair amount of ingenuity—if not originality—is given a pretty free hand, and not subjected to restrictions which some complain of. No matter what style is adopted, the chief points to observe are to have a well-balanced arrangement, to avoid heaviness at any point, to select suitable colours, and last, but not least, to finish every part well.

During the past season the fashion has been to have everything kept very low, with the result that the effect produced has been too formal to satisfy those having a really artistic taste. The London florists are interested in maintaining a low style of arrangement, because their floral devices are usually made up in sections on their own premises and then conveyed to wherever they are required, placed in suitable positions on the dinner table, and given the few necessary finishing touches. Flowers arranged in a low style are much better adapted for this kind of work than when a freer style is adopted. The difficulties of transit are less. This is a point gardeners should bear in mind, as it gives them the opportunity of surpassing the too artificial attempts of the London experts.

To my mind no dinner-table decorations are really effective unless a flowing outline is produced by giving height at various points. Some readers will perhaps at once exclaim: "Oh! but nothing should be high enough to impede the view across the table." My reply is, Height does not mean heaviness, and it is quite an easy matter—when suitable materials are selected—to secure the necessary undulations of outline without getting into the common error of making the elevated parts so heavy as to be termed obstructions. An artist in decorative work generally has in his, or her, mind's eye a definite idea as to the appearance of the arrangement when completed, and a due sense of proportion keeps in check the common tendency to overcrowd, to use too much material. The greatest mistakes are usually made on small tables, when the vases or other receptacles used are too numerous or too large in proportion to the size of the tables. Glasses and flower-stands of various sizes and of suitable forms may now be obtained at reasonable prices from manufacturing specialists, and when the decorator is provided with a varied supply of them the production of light arrangements is much simplified. Without such conveniences, however, no ingenious operator need be much puzzled, because by the aid of slender-shaped flower-glasses varying in height from 2in to 12in, and a few glass bowls or shallow tins, extremely varied arrangements may be worked out, which for brightness and beauty would be hard to surpass.

The great festive season is now on hand, and from that time onward till the end of January dinner parties and other festivities will be the order of the day. I propose, therefore, to treat in detail of a few good methods of arrangement, which, I trust, will be helpful to some.

The Holly and the Mistletoe are inevitably associated with Christmas time, and should therefore be used to some extent in embellishing the dinner table on that festive day. If used too freely the effect produced is heavy; but when associated with flowers and graceful plants, or foliage in a cut state, brighter and artistic finish may be easily combined. Scarlet Tulips, Holly, and Mistletoe form a pleasing combination. Where there is a choice of Holly select the variegated forms; shoots with a silvery, rather than a golden, variegation are preferable, because they show up better under artificial light. A few shoots well berried, if wired together in a tasteful way, look well if disposed at irregular intervals near the sides of the table. These may be sometimes connected by flowing lines formed of other shoots; at other times run out a few lines to form a series of irregular rays, but do not connect the various little groups

with each other. Sprays of Mistletoe could also be mixed with the Holly, and to still further brighten the arrangement wire a few Tulips to the Holly here and there. If this is done deftly the flowers will appear perfectly natural in appearance. When candelabra are used a few sprays of Ivy, Asparagus, or Smilax will answer well for draping.

If the latter greenery is chosen let it hang in a festoon at one or two points. Tulips wired to the greenery at intervals will then give it a showy appearance. Two or three dressed stands or vases will be needed for the centre of the table, always avoiding having them so close together as to form an obstruction. Stands with a few projecting arms are well adapted for Tulips, and fronds of *Pteris serrulata* and *Adiantum cuneatum* are light, pleasing forms of greenery to use. Slender shoots of *Carex japonica variegata* will also help to give lightness. Instead of stands, low glass bowls should be used for the centre of the table. In that case a light-foliaged plant, such as *Eulalia japonica variegata* or *Cocos Weddelliana* could be placed in the centre of the bowl. Some of the flowers could be used with the bulbs attached, others lengthened on wires. I have now to deal with what I consider to be the most important part of the arrangement, viz., forming pretty little bits which appear to spring up naturally at various points. In some cases small bowls or receptacles of varying sizes and shapes may be used, the flowers to be arranged in sand, the latter being lightly covered with *Lycopodium*, and lightened with Fern fronds. In other cases, where just one or two flowers are needed, wire and fasten them to a small ball of moss, dress the moss with a few Fern fronds, and we at once have a neat little arrangement which can be disposed wherever required. I do not believe in making these little parts of the arrangement "match" on either side of the table, but prefer to see them well placed, yet with a studied disregard to regularity. On a large table it is often necessary to introduce here and there a very light thin plant, or a shoot or two of *Eulalia* or *Carex* to give height and lightness of surface, but if such are arranged in the light way I have in mind, no one could possibly object to them as being obstructions. Poinsettias might be used instead of Tulips, and they are very effective. They would, however, need a somewhat different style of arrangement. The great point with flowers of that type is to keep them low, avoid overcrowding, and thus make every bract "tell." In that way only is their beauty displayed to advantage.—H. DUNKIN

(To be continued.)

Wild Flowers of Old English Gardens.

We often notice in autumn that various tall plants, which have braved the changes of October, are suddenly smitten down by a November night's frost. Thus, the biennial Mulleins, in their second year, drop along the roadsides or about the copses, and the same thing occurs when they are growing in garden borders. Some people still believe that these plants are not really British, but have distributed themselves gradually, their ancestors having been imported years ago. Yet several species appear to come up naturally in woodlands after clearing, and we have no very early record of any Mulleins as a garden species, though doubtless the monks cultivated many brought from abroad whose history is lost. But if the Great Mullein (*Verbascum Thapsus*) was the Great Taper, from a fancied resemblance to church candles, it was also Hag Taper, and supposed to have mystical powers. An ointment was made from the flowers; the woolly down, too, was held in esteem. Though not the tallest of our Mulleins, it seems probable this was the species first cultivated in English gardens.

Then there is the White Mullein (*V. Lychnitis*), a species not always of that colour, for an orange-flowered variety, having thicker leaves, has been got by fertilising plants with pollen from the preceding species. Several varieties of other plants in the genus have been similarly obtained; some have been found wild. Of the tall yellow Hoary Mullein (*V. pulverulentum*) there is a variety which has purplish stems and branches, also less woolly leaves. Usually they are covered on both sides with mealy, rather unctuous wool. If we have a specimen 5ft high it looks grand when its tapering stem is full of golden flowers, showing scarlet hairy stamens. Loudon remarks that if the stem is struck smartly, in about five minutes all the flowers

will throw off their corollas, when the calyces close round the ovaries; a curious example of plant irritability.

Gravelly and chalky soils suit the Black Mullein (*V. nigrum*); but it is scarcely to be called black, though the stem is brown or purplish, and the leaves are slightly downy, of a deep green, the radical ones very long. It has smallish yellow flowers, being seldom more than 2ft high. In gardens people grow a white variety, also another having a large copper-tinted corolla. The Moth Mullein (*V. Blattaria*) is an annual; it has a somewhat foetid smell, and is said to be attractive both to butterflies and moths. Its Latin specific name was given because of the belief that it has just the opposite effect upon cockroaches, which, if true, would be a reason for cultivating it. This plant used to grow about Deptford, near London, and a white variety is sometimes found wild, also in gardens.

The Purple Loosestrife (*Lythrum Salicaria*) was, in the olden time, so plentiful about marshes by the Thames and Lea, near London, that it became a garden plant long ago. Books of a hundred years since mention it as being often grown, and sometimes increased by cuttings raised under a hand-glass; it is grown also from seed. We admire it for its beautiful spikes of crimson or purple flowers, which keep in bloom a good while, and then plants will reach the height of 5ft. Possibly one reason for its culture was that the presence of this species in a garden, as the name indicates, was supposed to put a speedy end to quarrels. The name of Loosestrife was also conferred, we find, upon other plants in the Primrose family; thus it is one of those attached to the familiar Moneywort, *Lysimachia Nummularia*. In a few English counties occurs the Hyssop-leaved Loosestrife, or Grass-poly, which is an annual, having smallish flowers. A capital variety of the large Loosestrife is known as *L. roseum superbum*, well deserving culture, which will thrive beside ponds or along borders.

Nearly akin to the exotic Fuchsias are the Epilobiums, or Willowherbs, of Britain, taking their Latin designation from the long pod containing the seeds, which is frequently tufted with down. The popular name is suggested by the usually slender foliage. Such conspicuous plants were soon welcomed into gardens, especially when it was found that several species thrive in smoky towns; indeed, will sometimes increase so as to be troublesome. Their chief representative is the Rose Bay, or French Willow (*E. angustifolium*). I do not know why it took a title from France. Loudon states it was also called the "Persian" Willow. A handsome perennial which will reach the height of 6ft, displaying a profusion of crimson flowers in clusters, there is a white variety to be seen in gardens, occasionally wild as well. It is a species fitter for the shrubbery than the border. Attempts have been made to utilise the abundant down by mixing it with wool, and working it into stockings.

Village gardens often show the Great Hairy Willowherb (*E. hirsutum*), which the children greet as "apple pie" or "codlins and cream"; it does exhale an acidulous, fruity scent. Its abundant foliage is greyish green, the flowers being pinkish. This is a plant of ditches and riversides near London, and it was very abundant along the Lea. Curtis, the botanist, discovered *E. roseum* in Lambeth Marsh; it is a rather scarce wild plant, but has been distributed about gardens by seed. It has smooth, delicate leaves and palish streaked flowers, rather few, and can scarcely be called an attractive plant. Very different in habit is *E. montanum*, which likes dry or hilly places, occurring often on old walls and cottage roofs; this has red stems, broadish leaves, and light purple flowers. To the Willowherb order belongs the favourite flower, the Evening Primrose; but *Oenothera biennis* is a more than doubtful native, coming to us from America by way of France, though clumps of it grow seemingly wild.

We southerners regard the common Mallow (*Malva sylvestris*) as a wayside weed which now and then appears in gardens, but in some parts of Yorkshire it is often grown by the cottagers, who use the plant medicinally. Gerard, the old botanist, speaks of its virtues, and the Romans are said to have cooked the leaves. The flowers might, indeed, be considered handsome were the Mallow not so abundant; cultivation fails to produce any change in them. But the finest of this family is decidedly the Musk species, *M. moschata*; it is tall, and has beautiful pink flowers veined with red. Towards evening, and after rain, the plant gives off a perfume which has been compared to that of musk; it is not particularly from the flowers. Though local, it is still found wild about Surrey and elsewhere not far from

the metropolis, and has been a garden flower a long while. In borders the flowers tend to lose their colour, and the musky smell vanishes. Possibly one reason why Mallows were encouraged in gardens was their having a place amongst the plants which, when near, are supposed to prevent quarrels.

It is observable, from allusions to it in early gardening books, that the "French Mallow" was brought over three centuries ago, perhaps chiefly on account of its curative properties. This is *M. Alcea*, or now called the Hollyhock Mallow, a vigorous-growing perennial which has flowers 2in across in clusters, and flourishes almost anywhere. Few native plants are more stately than the Tree Mallow, *Lavatera arborea*, which does actually reach the height of 7ft or 8ft, even more. It is a biennial, flowering from July to October on the sea-coast, but the seeds have been sown in gardens, where the plants will survive a mild winter. —J. R. S. C.

Gadding and Gathering.

"HERE AWA', THERE AWA'."

So soon as I entered one of the well-constructed houses in Messrs. Cutbush and Son's nursery, at Highgate, last week, I had the double pleasure of seeing the sweet little flowers of *Daphne indica rubra* (borne on a batch of dwarf and bushy plants) and of inhaling what to me is a delightful fragrance. In the same house were plants of *Luculia gratissima*, whose large clusters of soft pink flowers had passed till another year; but the stock of stout-stemmed representatives of this lovely greenhouse subject were breaking into new growth, and promise handsomely. The Cutbush people grow fruited Oranges (*Citrus aurantiacum*) in 5in and 6in pots, somewhat extensively. Many of these had a fine array of their "Golden Apples" (to quote from the ancient geographer, Scylax) already brightly coloured and ready for the decorative uses to which they are put in the many "furnishing" contracts which the firm has in and around the metropolis. Recognising the persistence and attractiveness of these plants, one might with justness expect to see them much more liberally employed by gardeners and amateurs.

Messrs. Cutbush and Sons, Highgate.

I referred to the decorative contracts of the Messrs. Cutbush. For the proper supply and execution of this branch of their business they are obliged to grow very large quantities of the well-known plants used in this connection. Hence one finds many long, span-roofed structures filled from end to end on either side with Kentias, Phoenix species, *Latania*, *Livistonias*, *Chamærops*, and such other Palms; also beautifully striped and variegated *Aspidistras*; *Araucaria excelsa* by the score; with *A. e. compacta*, a very distinct, close-growing, green and pleasing variety, and the glaucous coloured species that derives its name—*glaucula*—from this character. When properly developed, we can always admire *Araucaria glauca*. While naming this special line of plants one must include *Eurya latifolia*, which is nearly hardy, and bears tricoloured leaves, bronzy-yellow predominating; *Aralia Sieboldi* and its variegated form; *A. Veitchi* and *A. elegantissima*; *Ficus repens variegata*, a splendid twining subject so effective when wound around a lichen or moss-covered stump; *Dracæna (Cordylina) indivisa*; *D. Doucetti*, with long recurring leaves, an inch broad, and tinged a metallic and lustrous brownish-red. The foregoing are all grown in quantity.

Acacia armata and *A. grandis*, in small-sized pots, seemed likely to provide a display later on; and near by them were better grown samples of the pretty Bottle-brush flower than I have seen for many days. *Ophiopogon jaburan variegata*, so useful at the spring, summer, and autumn shows, or for hall and lobby decoration, was on view, and brightly coloured they were, too. *Smilax* and *Asparagus Sprengeri*, each in 5in and 6in pots, trained to neat stakes, will prove useful material to anyone who may require such. There were also groups of standard and pyramid *Ribes* (Flowering Currants) with stout growths, well ripened—as evidenced by the dark, healthy bark—ready for forcing now, or later on, as required. *Spiræa grandis*, *S. confusa*, *Deutzia crenata fl.-pl.*; Thorns (*Cratægus*), *Viburnums*, *Hydrangea paniculata*; *Prunus sinensis alba fl.-pl.*; *Pyrus Malus*, and the variety *floribunda*; *Laburnums*, and *Magnolias*, all in fine form (to be had either as standards or pyramids in the bushy form) were here seen. The hardy and greenhouse *Rhododendrons*, dwarf in habit, splendidly set with large buds, and quite established in 8in, 9in, and 10in pots, could not fail to gain passing attention; nor could one miss the graceful *Arundinarias*. The hardy and half-hardy Bamboos are gaining steadily in favour, and soon every garden will possess at least the commoner species. But here the printer points out that a column is only 10in long, and I must stop here for the nonce; and, as usual, will sign myself—WANDERING WILLIE.

Brunsvigia grandiflora.

Half a century ago the older botanists included *Brunsvigias* with the *Amaryllis*, and wrote of them as though they belonged to the same genus. The *Brunsvigias* may rightly enough be called first cousins to the *Bella-donna* Lily, to which they approximate in all characters. *Brunsvigia* is a complimentary name, given in honour of the noble family of Brunswick, from which our King is a descendant. *Brunsvigia grandiflora*, which we here illustrate from a sketch made by Mr. George Shayler, and commonly called the Candelabra Flower, was shown in flower last August at a meeting of the Royal Horticultural Society.

It then received an Award of Merit. We find it described in the newly issued Journal of the Society thus: "Award of Merit to *Brunsvigia grandiflora* (votes unanimous), from Messrs. Paul, Cheshunt. A very uncommon bulbous plant, introduced from the Cape of Good Hope in 1829. Leaves long, flat, 2in broad, pale green; scape 20in high, terminating in an umbel of single rosy-pink, bell-shaped flowers 2½in long and as much across."

We show the plant (reduced) as it was represented at the meeting we speak of; also a detached flower of the natural size. The bulbs are much larger than those of *Bella-donna*, and if they are left above ground, or half out of the soil in the pot, they never do much good. They like very strong loam, but no manure mixed with it. If the pots are well drained, as they ought to be, you can hardly give them too much water in winter. Some gardeners place them in hothouses, thinking to hurry them on; but, being of a noble race, they resent this trespass on their dignity—they must have their own way. It is true they make a very rapid growth, like all the bulbs of South Africa, in their native wilds, as they can only grow during the rainy season, which in that country is not much above three months in the year, and when the rains are over they are almost baked with the drought; and we ought to imitate that dry heat as much as possible when they are at rest with us, by placing the pots where the sun strikes hottest about the premises. There is another peculiarity belonging to them, which puzzled all the gardeners for many years. Their roots never die of themselves, and, if they meet with no accident, will penetrate down, in the course of years, beyond the influence of the annual droughts, and at that depth they have some moisture, more or less, all the year round. Now, one could hardly believe that we could imitate this part of their natural condition. If we put the pots in saucers when they were dry, and give a little water now and then, we could not so regulate the supply as to prevent the soil imbibing part of it; and the soil cannot be too dry when they are at rest. Many experiments failed, and hundreds of bulbs were destroyed before we overcame this diffi-

culty; and it is the simplest thing in the world after all, merely placing the pots in deep saucers, and 2in wider all round than the pot, then filling them brimfull of sand, and by only keeping this sand moist, the bottoms of the pots are kept uniformly damp; and thus the best part of the roots are kept from drying too much, while the bulbs are as dry as our climate can make them, and the treatment is so near to their natural condition that they flower regularly under it. In 1844, 1845, and 1846 large assortments of these came from the Cape, some of them not in the best condition. After establishing them in pots, they were planted in a border in the open air, from which frost was kept, and most of them recovered and flowered. A rainy season seems to suit them; and yet in dry seasons they do not like to be watered all over their leaves, only at the roots.

There are many kinds of bulbs from the Cape Colony, near relations to *Amaryllis*, which will all do under the above treatment; and one peculiarity belonging to them is their dislike to close confinement, and yet they are fond of heat. They also require their roots to be three years old before they will flower; so that when once they are disrooted, no matter how old the bulbs may be, it will take three years to establish them again. We often see large imported bulbs of them flower a few months after their arrival; but such flowers were formed before they were disturbed in Africa, and, of course, had nothing to do with our kind of cultivation.

We think that the whole tribe of half-hardy bulbs open a fine field for the improving hand of leisured amateurs. During half a century that has past we see what Mr. J. Heal, of Veitch's, and others in various parts of the country, have accomplished in the production of those splendid new *Amaryllis* (or *Hippeastrums*) which genus is noted in the foregoing text. All that is required for the successful culture of the majority of this class of bulbs is a good greenhouse, one fit for such bulbs as grow in winter, and another fit for those which make their growth in summer, good peat, loam, and sand, from which different degrees of compost can be made, and

last, a good stock of patience and perseverance, which is very essential in all phases of gardening. Amongst the subjects that might be suggested would be *Sprekelias* (or *Jacobæa* Lily), *Sparaxis*, *Watsonias*, *Ixias*, the *Bella-donna* Lily (to assure a hardier family and greater number of varieties); the Guernsey Lilies, *Vallotas*, *Hypoxis*, and other genera which stand in near relation to the foregoing, though they may not be strictly classified as bulbous.

Pears at 8d. Each.

A tall price this, yet good specimens—large, juicy, thoroughly ripened, and unblemished of the Californian Easter Beurrés are, or were last week, offered at from 5d. up to 8d. each in the Central Row, Covent Garden. Blemished Beurré Pears even fetched 2d. each; others, 4d. per lb.



BRUNSVIGIA GRANDIFLORA, THE CANDELABRA FLOWER.

DETACHED FLOWER NATURAL SIZE. INTRODUCED FROM CAPE OF GOOD HOPE IN 1829.



Chrysanthemums in Vases.

Another season's experience gained by a tour of the most important shows convinces me more than ever that the arrangement of cut blooms in vases is distinctly increasing in favour, and that the days of the stand, cup, and tube are numbered. Even a sceptic in this had but to examine those lovely Japanese blooms in what is now recognised as the "great vase class" at the Aquarium, and then take a view of the best of them on the ordinary stands; and if he still honestly believes that the latter is still the best method of staging Chrysanthemums, well, he must have further demonstrations of a forcible character.

I would then take such a sceptic to the autumn show of the Scottish Horticultural Association, held in the spacious Waverley Market Hall, where as many as fifteen classes are provided for blooms arranged in vases. There, although the show is visited by 30,000 persons, few appear to take more than a passing glance at the blooms arranged in the ordinary stand, excepting, of course, those intimately concerned in the exhibits. It is difficult indeed there to get near the leading exhibits in the vases, so enraptured are the visitors with those classes. Apart from the interest displayed by the ordinary visitor in the vases as compared with the older-fashioned method of showing off the blooms, there is no comparison whatever in the usefulness of the principle of arranging one or more blooms in vases as compared to that of placing them in tubes and cups. In the former the flowers can be seen in a natural manner as though they were still growing on the plant. Their natural habit need not be distorted in any way. Not only are the Japanese staged in vases with such good results at the N.C.S. show, but this year a class was made for incurved as well as Anemone-flowered varieties, and a distinct success was obtained, especially with the formal incurved blossoms.

I for one have for years considered this section quite unsuited for effective arrangement in vases, but after inspecting the exhibits in the class alluded to I must alter my opinion. Magnificent were the blooms of such varieties as Ma Perfection, Hanwell Glory, Duchess of Fife, Louisa Giles, and Globe d'Or, arranged, as they were, in vases, the blooms supported with neat stakes, so placed as to be quite unobtrusive. When the blooms are well grown—deep and solid—they possess a decorative value, not perhaps with that graceful character which so many of the drooping type possess in the Japanese section, but still quite handsome in the eye of those who appreciate quality in a Chrysanthemum. Flowers that lack depth and solidity of petal owing to faulty cultural conditions, require, very often, a close-fitting cap and tube to close up the florets and hide the defective centre. Such blooms as the latter would bring the vase method of arrangement into bad odour very quickly, but these are not the class of blossoms to rule an improvement in method, but the reverse.

When vases too narrow in diameter are employed, it is not easy to arrange the blooms in such a manner that each one can stand clear of its neighbour. Especially is this troublesome when five specimens of such varieties as Madame Carnot are employed in one vase.

It is difficult to arrange effectively blooms like these that measure as much as 10in in diameter. When one flower overlaps another the beauty of outline is lost, and individual character falsified.

Were it not for the employment of vases we should not see the magnificent displays annually at York, Ipswich, and Winchester, which are made with what are known as decorative varieties in a stipulated number of sprays undisbudded. Without this method of arrangement such useful sorts as Lady Selborne, Elaine, Etoile de Feu, Adelaide Russell, Source d'Or, Mrs. E. V. Freeman, Souvenir de Madame Menier, Ettie Mitchell, and La Tromphante, and one and all are quite unfit for exhibition individually as cut blooms.

No better method of staging Pompon and Anemone Pompon varieties is in existence than in vases. At Hull, yearly, quite one of the most interesting exhibits is that of the Rundle family, arranged three stems, each carrying a single bloom, in a vase with their own foliage attached. Single flowered varieties are specially adapted to vase decoration, either as cultivated to produce large blooms or when grown in a mass undisbudded. Magnificent were the thirteen vases of this type staged at the Edinburgh show in the class for a vase of single flowered Chrysanthemums. Whether the exhibitor adhered to one variety or included several, all were good exhibits. It is difficult to con-

ceive finer exhibits for effect or usefulness than the first and second prize stands, one filled with Miss A. Holden, and the other Mary Anderson, each with not less than two dozen handsome full grown blooms, and so arranged that every flower could be seen—no crowding—a really fine drawing-room ornament. No such effect could have been obtained by employing the same flowers on stands.

At Ipswich, a capital class was that for spidery flowering sorts. Although, if but few competitors took part, the exhibits were interesting, and illustrated thoroughly the value of the principle of arrangement of varieties like Mrs. J. Carter, Sam Caswell and Silk Twist are pretty so arranged with their own foliage, nothing more is needed to give effect. If some society could be bold enough to sweep away all the stands and arrange a schedule of prizes without them, I am certain they would soon find imitators. In conversation with one of the leading officials at the Edinburgh show I suggested this to him. The reply was, "The boards give an opportunity to the little man to show his half-dozen blooms." I say these half-dozens can be shown just as well in two vases, or even in one, and less trouble, too, to set them up.—E. MOLYNEUX, V.M.H.

Future Progress of British Gardening.

The improvement of gardening, like that of every art or commodity, necessarily depends on demand and production. These causes operate reciprocally on each other; a nicety of taste in the purchase of vegetables and fruits exposed in public markets will occasion articles of better quality being brought there; and articles of a superior quality, by improving and rendering more fastidious the taste of the purchaser, will ensure the continuance of their production.

In like manner, if those who have private gardens were a little more difficult to please in selecting a gardener, and in the quality of produce sent to table, the consequence would be an improvement in that produce, and more scientific gardeners. Gardeners of greater scientific attainments would surprise and delight, by their superior fruits and flowers, and the greater order, beauty, and high keeping of their gardens; and the habits of both parties accommodating themselves to this improved state of things would be the ground on which to rely for its continuance. In this view of the subject the further progress of gardening depends on two causes—the improvement of the taste of the patrons of gardening, and the improvement of the science and art of practical gardeners.—(LONDON, in his "Encyclopædia of Gardening.")

Forced Pot Vines.

So soon as the fruit is set, attention should be given to thinning the berries, removing the smallest first, and allowing sufficient room for the berries to swell to their full size without wedging or crushing each other, yet leaving enough to form a compact, symmetrical bunch. Water copiously with liquid manure, keeping the evaporation troughs charged with liquid, 1oz guano to each gallon of water, dissolving the guano, and straining before use. Where there are no evaporation troughs on the hot water pipes, the floor and pit edges may be sprinkled occasionally with liquid manure in the afternoon.

Encourage growth above the fruit, yet only as much as can have exposure to light. Surface dress the soil with sweet short manure, and when roots are freely emitted from the collar, some turves may be placed on, round, and over the rims, extending a couple of inches on the inside and outside.

Press the fermenting material down, and add to it from time to time, so as to keep level with the rims of the pots, but do not raise the temperature about the pots above 75deg. When the roots are working freely in the top dressing, they will greedily absorb nourishment, which should be supplied by sprinkling a little of some approved fertiliser on the surface at intervals of a fortnight. Bone and blood manure have special value for Vines.

The temperature should range from 65deg to 70deg at night, 70deg to 75deg by day, 80deg to 85deg from sun heat, admitting air at 75deg, and closing early, so as to raise it to 85deg or 90deg with sun heat, damping the paths and borders at closing time or early in the afternoon. Syringing the Vines ought not to be practised, as there is always danger of the water leaving a deposit on the berries.—A.



Pruning Crowded Wall Trees.

Trees on walls, especially Pears, frequently fail to bear satisfactory crops from the fact that the principal branches are too thickly placed. When this is the case spurs become elongated and weakened, and fail to plump up fruit buds. The remedy is to thin out the crowded principal branches first, leaving them a foot asunder, then thin out the clumps of spurs and reduce the number of separate spurs in each clump. Some of these may also be shortened back to buds nearer the main stem. These renovating processes cannot be carried out in one season to the fullest extent always, but relief may be afforded gradually, thus avoiding severe checks. Fan-trained trees can readily have the branches disposed of in a fresh manner, so that more room is secured to them for the next season, and this should be done annually, by which means overcrowding is avoided and fruitfulness secured.—G.

Magnolia stellata.

There is not one *Magnolia* among the dozen or more well-known kinds that is not worthy of heading a fair-sized list of trees and shrubs. All have beautiful flowers, many of them seed pods of a lovely carmine colour, and some, notably *M. tripetala* and *M. macrophylla*, are renowned for their magnificent foliage. Then, one after another, their flowering period extends over several months, commencing with *M. stellata*, in early April, and ending with *M. glauca*, in June, or, where hardy, *M. grandiflora*, which is sometimes still flowering in the early days of July. *M. stellata*, of which we particularly write, is of great merit. It is the first of all to bloom, the flowers opening just as soon as frost disappears for good in early April. In the bud, the flowers are pink, and when freshly open a little of this colour is maintained; but when in their prime they are white, under which colour it is usually classed. To add to the beauty of the flowers and to their lasting quality, they are semi-double. The dwarf, bushy character of the growth of this species is much in its favour. It can be planted, says the "Florists' Exchange," in sheltered nooks where a large growing one would not suit, and in this way early blooms, secure from late freezings, are obtained. It makes an admirable pot plant, flowering profusely, even on plants but a foot high. When grown in this way, the flowers can be had nicely for almost any date after Christmas. Each flower does not last many days, but there are usually a great many of them, and, as they do not all open at once, there is a display for some time. As already noted, the flowers are semi-double, and, as is the case with all such flowers, they do not decay as rapidly as single ones.

Late Grapes.

These are best removed to a dry room, where they will keep quite as well or better as if left on the Vines. The bunches should be cut with as much wood as can be spared, and placed in bottles filled with rain water, with a piece, or pieces, of charcoal in each, which will render any organic matter innocuous. The bottles should be fixed in an inclined position, so as to admit of the bunches hanging clear of the sides, and they may be as far apart as not to allow the bunches to touch each other. Keep the temperature of the house or room at about 45deg, examining the bunches occasionally for decayed berries, which should be carefully removed. The Vines should then be pruned after keeping cool for a day or two, dressing the cuts with French polish, patent knotting, or other approved preparation as a safeguard against bleeding; also thoroughly cleanse the house. Admit air freely in favourable weather, striving to give the Vines as long and complete rest as possible. If the borders are unsatisfactory lift the roots of the Vines, clear out the bad soil, rectify the drainage, and relay the roots in fresh, sweet compost within 1ft of the surface, and the fibry ones not deeper than 3in. Where the Vines are planted inside, and have inside and outside borders, the renovation may be accomplished without loss of crop by renewing the former one year and the latter the year following.—GROWER.

Canna David Harum.

One of the most striking Cannas in the United States is the variety David Harum. It is of very dwarf habit, not much over 3ft, has grand dark foliage, and big scarlet flowers of good substance and form, being broad and well rounded. It is apparently a great bloomer. But for foliage alone, Black Beauty is the Canna.

A List of Rhododendrons.

The list here furnished, though it is short, yet represents exceedingly beautiful varieties. The varieties were noted at Messrs. Cutbush's. Alphabetically they are:—Alarm, very bright pink; atro-sanguinea, dark scarlet; Barclayanum, deep rosy crimson; Blandyanum, deep rosy crimson; Caractacus, a very fine crimson; delicatissimum, white, tinged pink; Everstianum, rosy purple, fringed, and is a free bloomer; Kate Waterer, rosy crimson; Lady Eleanor Cathcart, this one of the best. It is very distinct, with pale rose-coloured flowers heavily spotted with chocolate. Michael Waterer, brilliant crimson, is a fine late variety. Waterer's people, of Bagshot, have raised many of these charming hardy Rhododendrons. Then comes Minnie, a fine white, with chocolate spots; Murillo, dark purplish crimson; ochroleucum, yellowish white, very lovely; Purity, a showy and good white sort, having a faint yellow eye; Sir Isaac Newton, dark plum colour, heavily spotted; The Queen, pure white, of waxy texture; and finally, Warrior, a rich rosy crimson.

Fossil Plants.

A meeting of the Hull Geological Society was held at the Royal Institution on December 5, when Mr. J. Fraser Robinson delivered a lecture on "Paleobotany; or, the Study of Fossil Plants." At the outset Mr. Robinson stated that some knowledge of botany was essential before taking up the study of fossil plants. By means of carefully prepared diagrams he produced, he showed the broad distinctions between the various species of plant life, and then went on to describe some of the well-known plant remains found in the different formations, illustrating his remarks with numerous excellent specimens. Inasmuch as certain particular species were limited to certain formations, paleobotany rendered valuable aid to the geologist in determining the age of strata, and also gave us an idea of the conditions which prevailed when such strata were laid down. The finding of nuts of the Palm tree in the London clay (Eocene), and the Arctic plant remains in the lacustrine beds of Holderness overlaying the boulder clay were quoted as evidence of great changes of climate at different periods.

Grafted Hollies.

The disappointment to those who purchase Holly bushes, looking forward to enjoying the bright berries, when it proves that what they have are male plants, is very keen, observes Mr. Meehan. There is no way to avoid this excepting by purchasing plants which have been grafted from the berry-bearing, or female plant. This fact was impressed on me very much recently when seeing a block of the deciduous Holly, *Prinos verticillatus*, which had been produced in that way. The little plants were in pots, and not over a foot high, and were quite full of bright, scarlet berries. The thought occurred to me that such pot plants would be useful in some way at Christmas, though being without leaves would be somewhat against them. But there would be a place for them then, as there is for everything with bright berries. But it is my opinion that the common Holly, either the native or the English, would make attractive plants either for pot culture or for the open ground, if produced as these deciduous ones were. These were grafted during the winter, the stocks, which were seedlings, having been potted up a year in advance, so that they might be in a growing condition when grafting was done. Nursery customers in America are continually asking for berry-bearing Hollies, and how rarely they get them! The usual plan is to wait till one has borne berries. This necessitates the taking of a good-sized bush, as small ones do not bear; and these large bushes will not transplant safely unless severely pruned. Those rich enough and with places large enough to set out a half-dozen or more of Hollies, need not be so particular, as they would be tolerably sure to have some berry-bearing ones in the lot; but those less fortunate in the line of wealth would have their desires met by being able to purchase a berry-bearing one at the start. A lot of young seedlings should be secured, potted, and put under cover, for grafting purposes.

Garden Design.

The gardener's mind is many times much exercised with plans for altering, beautifying, or extending the design of the garden he superintends. The subject of garden design is fascinating, and though one must bear in patience with the ardent apostles of the landscape gardening school on the one hand, and those of the formal (some of them object to the use of this word) on the other, yet it is well to read or listen to what each side has to say, and, where it is possible to do so, the designer of a garden should borrow considerably from each set of ideas and systems. Though we are confined to these passing remarks in introducing the reader to a notice of the opposite illustration, the subject is one that we have in view for further consideration. The picture on page 37 shows the beautiful effect of placid water in the kept grounds, and over-shadowed by noble trees. On the left the formal, architectural element, in the shape of a flight of steps, enters into the composition. The edge of the lake, too, is even, and smooth grass-banks rise backward from them. Beyond this is a rosery, which, too, is perhaps more studied in its manner of arrangement than Mr. William Robinson would commend; yet, taken as a whole, is it not a very beautiful portion of a garden? We think so, and perhaps the scene will afford suggestions to those who are now busy remodelling, or about to re-design, their gardens. The rosery is one that existed at Ilford, very close to London.

Some Typical Gardens.

I.—The Manor House.

I write as a countryman, born and bred amongst rustic surroundings, and closely connected with gardens and gardeners. Indeed, gardening is so inseparably a part of rural life, that without it the greatest charm of the country would be gone. It is bound by no laws of class or distinction, and has attractions for rich and poor alike. Even within the limits of one parish there are gardens possessing characteristics sufficiently varied to provide ample food for observation; and while the types I shall select in this short series are illustrations of actual specimens, they differ only in details from hundreds of others scattered over this fair land. Without further introduction, then, let me start with the home of the Lord of the Manor.

Past the village church, and about a quarter of a mile along the King's highway, there is a break in the hedge, and a big swinging gate guards the entrance of the carriage drive that leads off at right angles. The gate is in turn guarded by a pretty little lodge, which peeps out from a canopy of overhanging foliage, and every time the gate swings on its hinges a buxom white-aproned figure appears on the doorstep, who apparently controls the whole concern. Woe be to any suspicious-looking individual who attempts to pass this barrier unchallenged, but the lodge-keeper is a student of character, and, if satisfied that your business is legitimate, she nods a pleasant "Good Morning!" and is never loth to discuss the "tree pots" in the window, and the bright border of flowers beneath.

Away winds the road, delightfully shaded in the summer by the avenue of trees through which it passes, and leading, by its own peculiar right of way, through an undulating stretch of park scenery, it brings you by a subtle sweep past the end of a game covert, right in front of the Manor house. I don't know who planned the drive, but he was master of his business, and the individual who was responsible for planting the avenue perpetuated his own memory in the act. The house itself is not pretentious in proportions or grand in character. It is a comfortable-looking Elizabethan structure, rather rambling, and obviously ancient. It hardly looks as if it had been built, but appears as though it had grown there like the trees in the park, so perfectly is it at home with the surroundings. It seems shut away from the world, and yet it stands in the midst of a little world of its own making, and governs it unquestionably. A breadth of velvety lawn stretches away from the windows, and loses itself in the park, with no barrier but a sunk fence to divide them. There are the orthodox flower beds in front, but not too many of them, and easy curves take the place of

straight lines and acute angles. The lawn is worth spending a few minutes on, if it is only for the purpose of setting your watch by the sundial on the moss-covered pedestal that stood there no one knows how long. To the left there is a weeping Ash, with branches drooping to the ground. What a spot for afternoon tea, to be sure! A little further on there is the remaining half of an old Mulberry tree. The other part succumbed to a gale, and what is left is supported with props, bound with chains, and bandaged with copper plates. But the old tree is one of the family heirlooms, as it has a connection with Lords of the Manor long since departed. A gnarled Acacia occupies a conspicuous site of its own, and one of the features of the lawn is nothing more than a common Hawthorn. It might have grown in a hedgerow once, but it is a grand specimen now, and worthy of its honoured position.

Round the corner of the house there is a glimpse to be had of the river, meandering along about a quarter of a mile away. Timber in front, water behind—what a combination! Almost without knowing it, you find yourself in quite a distinct little garden. It is surrounded by tall Yew hedges, closely clipped, and there are fantastically cut figures here and there. Topiary work, you say, and turn your nose up. I sympathise with you; but in the Manor gardens it is not out of character, and connects one with a past school of gardening, which was as thorough, if not quite so up to date, as the present. If for no other reason than their old association, the Yews are clipped year by year, and the shape of the figures kept clearly defined, in spite of what critics may say.

A little further on is the Rose garden; but there is no standing still in the way of Roses. There are the old loves, the York and Lancasters, and the Cabbage Rose of other days, but mingled amongst the ancient are the modern—Teas and H.P.'s of recent introduction, and a Crimson Rambler climbs luxuriantly over an old tree stump. There are shrubberies, of course, for every old garden possesses them, with patches of turf, borders containing old-fashioned flowers that seem to be always blooming, and rustic seats in quiet spots that are suggestive of lovers. In short, it is a garden where the children can play hide and seek, with no difficulty about the hiding. There are no tiring terraces and broad, straight walks; but the place is suggestive of rest, and the winding paths that lead apparently nowhere have little surprises for you at every turn.

One of these ends where a doorway is set in a high wall somewhere at the back of the Manor, but hidden from it, and yet quite close. Inside that wall is the select domain of the gardener, where he grows his fruit, vegetables, and some of the flowers for the household supply. This appearance is in keeping with the place, for his hair is whitened by forty years' service, and if anybody knows the ins and outs of the establishment, and the family that owns it, this is the man. In the district he commands the respect due to the head gardener at the Manor, and is in much request in the summer for judging at local shows, where his decisions are unquestioned. I doubt whether any power on earth could persuade him to take a holiday beyond a day, and how the general world of horticulture wags, appears to be no concern of his. His world is the Manor gardens, and he is quite content with it. He grumbles a bit sometimes, because the glass is not quite suited to modern requirements, and fruit trees have a knack of growing old. Still, he makes the best of them, and the thick, old, knotted canes in the ancient vinery produce Grapes that would do credit to themselves on any show board.

But if the fruit trees are old, they have testimony to bear. The ancient Pears on the walls, with their great, thick limbs, are living illustrations of the skill of a past race of gardeners. Not a foot of space is wasted; every branch is trained in symmetrical form and equi-distant from its neighbour. You may see where a vacant space has been filled by grafting a branch on to the main stem and training it in. "They don't bear as well as they used to," the old gardener says, but they produce fine fruit still; and removal must not be hinted at, as they are looked on almost as members of the family. Certainly they are object lessons to any young gardener who requires initiating in the art of training fruit trees. The kitchen garden is, like hundreds of others, laid out in square quarters, with a herbaceous border down the centre. Espalier Apples and pyramid Pears run parallel with the walks, and though they bear the traces of severe pruning, there is no lack of fruit spurs. The south border

has a reputation for producing the earliest Peas and Potatoes in the district, and though no one remembers the origin of the Asparagus bed, it is second to none in the parish. It would be no use talking to the old gardener about the wearing out of soil. The appearance of the vegetables upsets that theory; and he will tell you that, with plenty of manure, free use of the spade in deeply working, proper rotation of crops, and an occasional dressing of lime, you may cultivate a garden for ever without wearing it out.

He is not so sure about the Peach trees on the wall that

old Joe has planted the flower beds and mown the lawns for a similar period. They have got sons, both of them, who have worked with them, then passed into the houses, and now are head gardeners in places of their own. The old labourers are proud of them; but in the way of knowledge they admit no comparison, and are still in positions to teach the sons, though they control establishments. They never interfere with each other, and I think that each one would retire rather than work in the other's department.

And so the world jogs along within the precincts of the



SCENIC EFFECT IN GARDEN DESIGN.

STILL WATER—ARCHITECTURAL EMBELLISHMENT—ROSES AND SHRUBS.

show signs of decay. He is quite in accordance with keeping an old horse, or servant, when vigour is past, but he has no sympathy with a fruit tree that has done bearing and loses a fresh branch every year. It is whispered that this point has been the cause of some little difference between him and the Squire, and evidently the gardener has not come off second best, for several healthy young trees occupy the sites of gappy Peach trees and gummed Apricots.

As with master so with men—everyone tried and experienced. Old Jim, of portly frame, is head man in the kitchen garden, and has been for forty years or more, and

Manor gardens. There are no specialities, no remarkable features in the way of valuable novelties and priceless Orchids; but there is no suggestion of stint. Old the place is, old-fashioned it may be as regards men and methods, but the principles are right and the practice thorough. Beyond this there is a uniting bond of sympathy between the Squire and his workmen. The former takes an interest in the housing and welfare of those about him, and they—well, they simply adore him, and are proud of the family they serve. There are many similar instances. Would that there were more.—A BRITISH RUSTIC.

Morello Cherries.

The pruning and training of these on walls should be carried out on favourable occasions. Mild, dry weather is the most suitable time. If the trees are crowded with branches that are old and exhausted, these may be cut out, which will leave abundant room to furnish the vacant spaces with those of a young and vigorous character, especially if they can be secured from the base or lower parts of the main branches.

In retraining, distribute the principal branches over the space available, leaving space for the next largest or secondary branches, finally occupying the intervening space with the young shoots. These, however, ought not to be too numerous, though they may be laid in 3in or 4in apart. In reducing the number of these cut out those not required either entirely, or shorten them to form spurs. Not many, however, of the latter are required if young shoots are available, as the young growths are productive, and can be renewed annually. Should any of the reserved shoots require shortening, cut them back to a wood bud. Endeavour to train as straight as possible, the growths being evenly balanced over the trees as far as possible.

Should the trees have been much affected with scale or red spider, a good dressing with insecticide should precede the training, otherwise it will suffice to syringe them well over afterwards, using a softsoap and petroleum emulsion with a good handful of sulphur mixed in to each gallon. —S. D.

Prunings.

One seems to get the best grip of the admirable leader by "H." on page 503 of December 5, last volume, in catching hold of its tail, like as a boy catches a cat. The end of the tale which "H." unfolds is:—"As a rule, the moderate sized article is preferred for home consumption, and while this is so there must be a distinction between produce grown for show and general use, whether the fault be on the side of judges who favour size, or consumers who do not." Growers, judges, and consumers of garden produce seem always more or less disposed to each seek their ideals of perfection from different angles of vision; triangular points sufficient diametrically opposed to inculcate confusion. To obviate this is not an easy matter, but it is an important one, hence the powers that preside over competition will sooner or later have to grip it too, and evolve some clear definition for the guidance of exhibitors and their judges, for, although the chief end and aim of vegetable culture is the table, exhibiting, in many cases, tends to run off at right angles from the goal, and the exhibitor, in playing at cross purposes with the cook, is sometimes run out. If those aforesaid powers that be would, or could, see their way to introduce a class for, say, a collection of vegetables best suited for table purposes—the cook's use—it would probably settle the vexed question.

Let no exhibitor think, however, that his resources as a grower would be diminished, for experience of even our most up-to-date shows tends to the inference that there is ample room for improvement apart from size. It may, of course, be said that the judicial eye, from too long gazing in the one direction, may have a moral squint, and defeat the object by biassed opinion. That is possible. Yet it is needless to say the best judges will be employed, and we may take it *nem. con.* that the best judge of what a cook requires is the cook. A jury of matrons may not commend itself at first sight to the mere man gardener, but with lady gardeners in the field this is, perhaps, one phase, at least, of gardening in which they could beat him by points.

Size of fruit, in relation to judging, is another tale, and contains but little contentious matter. Here quality is seldom sacrificed to quantity—size; and the noble Pine, or the grand Grapes, appeal to the eye as well as the palate without clashing. Certainly, huge Apples, or even prodigious Pears, may not carry the highest value for dessert purposes beyond certain limits of size which, if undefined,

are pretty well understood; whilst the monstrous Melon invariably condemns itself by the absence of all that makes a Melon worth eating; but exhibitors, judges and consumers, who are prone to fall out over vegetables generally, make up an undivided trinity of opinion over the fruit, and but little room remains for misunderstanding. In other sections there is room—for improvement.

On page 528 "Onward" again tackles the relation of gardener and estate agent. "Doesn't get much farther on, though; how could he?" said a critic, who summed up by adding, "The discussion of such matters does no good." The pruner does not agree with that, for probably these discussions do good, if by stealth, and well it is that "Our Journal" is a mouthpiece for men prone to think much, but say little where they are personally concerned. If only on the "tell or bust" principle, something is done in airing a grievance, yet results may be wider and reach farther than is apparent at first sight. How so? Well, the broaching of these grievances is the thin end of the wedge; one gives it a tap, and another gives it a tap, until the force of argument, if not actually removing the obstacle, place the operator in a position to overcome it. How essential here is tact and patience! Push and perseverance are atomic quantities by comparison. Let a man who is handicapped by agents or other intermediary obstruction bottle up his wrath till such time as THE time comes, when he can approach the fountain head and judiciously and diplomatically state his case. What a privilege is the power of knowing what to say, how to say it, and saying it at the right time!

"R.'s" critical notice of Mr. Toichi Tsmura's lecture on Japanese dwarf trees, page 536, recalls a recent narrow escape of the pruner, whose employer, on returning from Fogopolis, sounded an alarm by saying, "I was near buying a Japanese tree so many inches high and so many centuries old." Inches and centuries cannot now be correctly recounted; anyway, the tree in question was like Paddy's potent refresher, very small for its age. Much as we may admire the ingenuity of the clever, progressive Japs, and appreciate their horticultural examples of skill and beauty as evidenced, for instance, in their lovely tree Pæonies, of which we have here a collection, it is questionable if ever these far Eastern deformities will ever find favour with British gardeners. As curiosities they may certainly be tolerated by a few, but as long suffering specimens of Nature's endurance, these gnarled and twisted abortions will scarcely be welcomed by the many disciples of Nature. Give us, O energetic Japs, give us of your good things—your Lilies, your Irises, your Pæonies; but keep your antique pigmy trees. Again a note of thankfulness for our near deliverance from a ten-pounder.

Thanks to Mr. F. Street for his interesting articles generally, and those upon tropical plants in particular, for which we have a "strong weakness." His "Table Plants," page 553, are such as we have, and such as we love. How beautifully they brighten up a house—a plant house—and how hard it is to part with them for that other house from which there is no returning, save only damaged, dead, or dying. The more need, then, to take your correspondent's advice, and Time by the forelock, in propagating a goodly number of good tops early in the season.

"Chrysanthemums for Christmas." Ah! blessed is the man who has a house full of them. "An Old Contributor" gives a goodly list of late flowers on page 557, but where, oh! where, "Old Contributor," is Niveus, that gem of the whites, since growing which we have grown none other?

"Switch on page 559, please." "Are you there?" Yes, indeed, there he is—Mr. Arnott, true to the life, in spite of a little dark overtoning. And there, too, is the story of the man and his beloved garden. "A Guid New Year to thee, O graphic wielder of a magic pen, inspired by such love as would make converts of the most stereotyped greenhouse gardeners, bringing him out into a world of freedom amongst the hardy plants, into Nature's own kingdom of beauty. Again a Guid New Year to ane and a'."—SAYNOR.



Correction.

On page 18, last week, in an editorial footnote to Mr. Kettle's letter on "Hardy Fruit Grown under Glass," corrections were not made in the name "Kenty," which was the form we deciphered from Mr. Kettle's first letter, where his signature was anything but clear to read. One correction was made, but three were required.

Late Chrysanthemums.

Your correspondent, Mr. G. R. Peerless, asks, on page 18, for a list of varieties that will flower during January. He will find that many of the varieties mentioned in my previous notes, on page 557, last volume, will flower during the present month. I have still in good condition, amongst others, Princess Victoria, and its yellow sport; W. H. Whitehouse, a beautiful rosy purple, now just opening in sprays, but it is tall; Mrs. J. Bryant, deep rosy pink, in terminal sprays; Madame Von André, pale yellow; this has to be disbudded to single flowers and the number limited, then it is beautiful. I have a number of this variety in 5in-pots, carrying six to eight blooms each. Le Moucherotte, orange; Florence Molyneux will be beautiful, too, throughout the month, but it is at least 8ft high, and opening its buds well in sprays. George Seward, bronzy yellow, a good variety for late work; the stems will only open one flower. Mr. J. Cutts, pink; Mrs. W. Seward, reddish bronze on terminals, single flowers only; John Bridgeman, a good pink, but tall; Mrs. E. W. Clarke, claret, will be good for weeks yet; and Tuxedo, orange yellow. All these varieties could, with proper management, be had to flower later still, especially if grown in greenhouses from which the frost is just kept out. I must not forget to mention the Carey family, in white, pink, and yellow. These are not to be despised during January and February, for although the flowers are rather thin, when fully developed the florets fold over and cover the large eye, so conspicuous when they are opening. There are many of the other late kinds that would be very useful at this season if they were only grown to the terminal buds, and I have several in mind for next season.—AN OLD CONTRIBUTOR.

American Chrysanthemums.

"A storm in a teacup" would best describe the comments of Mr. Charles H. Totty in the American "Florists' Exchange," and as quoted on page 8 of the Journal. The Editor of one of your contemporaries drew attention to two American varieties—viz., Col. D. Appleton and Timothy Eaton (yellow and white), as champions not to be beaten in their respective colours (in America), and adding: "Have our growers secured these varieties? Systems of culture vary, and also ideas as to what constitutes a perfect flower, but the pair above mentioned should be worth a trial. My reply was 'that the first-named I have grown for two seasons, and it has little to recommend it. A moderate sized bloom of fair colour, with short petals, globular in form, but much too stiff and lumpy to recommend itself in this country. I do not consider it worth cataloguing.'

"Timothy Eaton has only been tried one season, but it is hardly possible to judge a variety grown from the small plants imported. It is of tall and ungainly growth, and from our point of excellence has little to recommend its cultivation in England. Our cousins across the way seem to be a long way behind in raising good varieties; not one out of twenty is worth cataloguing."

Now, I am sure that growers in this country cannot be charged with "insular prejudice" in any shape or form. I know of no one "who cares a pin" from whence a variety is derived, so long as it is good. No one has ever objected to be supplied with a variety because it was American, or Continental. As a specialist, I can only say that I have obtained from America—giving the most important growers a free hand to send whatever they consider the best—many more varieties than I have ever sent to that country; and when I had discovered a good one, did my best to make it known here. That popular variety, "Our Mutual Friend," although of no account in its native land, was one of my first "finds"; and since then I think I can claim for having shown in good form more of the American good varieties than any other grower in this country.

Our "cousins'" idea of excellence is a flower of globular form, with incurving florets (generally), sitting with a short neck, or

peduncle, on good foliage. It must have a short neck and the foliage come well up under the bloom, or the best of flowers are "passed." Strange to tell, the Americans are now going in for exhibiting on the green board, in spite of the "deadly monotony." Would Mr. C. H. Totty be surprised to learn that of the many hundreds of blooms I have shown this season, not one has been staged on "boards," but mainly in vases?—W. J. GODFREY, Exmouth.

Reading.

In your issue of December 26, last volume, a very able article appears under the above heading. Permit me to add my testimony to the value of reading, which, alas! does not engage the attention of many of our young men in gardens in these days. As one who spent a good many years in bothies at both sides of St. George's Channel, I must confess that too much time is taken up with passing things, in some cases, as card playing and dancing. Whilst not objecting to healthy and innocent amusement, I fail to see what either of these can do for to help us in the battle of life. Are there not many, amongst our young men, who have the Book of Books in their box, placed there, perhaps, by the hands of a loving mother, who, on parting, besought her son to read it daily? Might I, as one who can look back on many years of my life with regret, entreat you young men to take that Book from its hiding place, and looking to the Great Creator for guidance, make it your chief study? Young gardeners of to-day, who may be the head gardeners of to-morrow, I ask you on this, the beginning of another year, to choose good books as your guides. Those of us who are elders, and placed in positions of trust, may we, both by precept and example, guide and encourage those who are our assistants. Many a fine young life is blighted from the effects of a bad example. I wish all readers of the Journal a truly Happy New Year.—ROBERT RUSSELL, Marlay, co. Dublin.

Long-tailed Tits.

It was my delighted pleasure a few days ago to watch some long-tailed tits, apparently feeding on a Hawthorn hedge. It required great caution to obtain a close inspection, but their movements were so very quick and eccentric that I really learned nothing as to what they were doing. I came to the conclusion perhaps it was the buds they were attacking. One bird was also just as busy as the rest, and this one was on an Elm of small size. But in endeavouring to see all to be seen I made a false step, and they all flew away. The birds are rather rare in this part of Kent, I think—at least, they are to me, for I have seen very few of them, and then it has chiefly been in the winter. If I am not asking too much of your generosity, perhaps, sir, you may find room in the pages of "our Journal" to tell me what these pretty birds feed on, especially in the winter months.

I now take the opportunity to thank you and your correspondents for the useful and interesting information that has been collected concerning the question raised by me—i.e., "The raising of Araucaria imbricata from home-saved seeds." Allow me also to wish you and the paper you so ably manage, and all connected, a Happy and Prosperous New Year, and may "our Journal" long continue in such able hands is the sincere wish of yours very truly—H. R., Kent.

The Price of Grapes.

It so happened that the very day on which I read a note on the price of Grapes in one of your contemporaries, I myself had been studying the prices of Grapes in Covent Garden (Central Row), Strand, and Regent Street. In the best shops there I found Alicantes selling at 2s. and 2s. 6d. per lb; Gros Colmans at 3s. per lb; and the best English Muscats were ticketed at 7s. per lb. Black Hamburgs of second quality fetched 1s. a lb. The writer of the note I refer to, in part of his letter, says: "With prices quoted at from 9d. to 1s. 6d. per lb, it seems difficult to understand how they [the growers] can make any profit. It seems not to be many years since Grapes produced double, and even treble, the prices now quoted. What causes have led to this remarkable reduction? Is there less demand for Grapes? That hardly seems probable. Are consumers less able to purchase now? That, again, seems unlikely. Are Grapes produced in far greater abundance than seems requisite? That is not improbable. Are there too many inferior Grapes put into the market? That, too, seems probable. Very likely some will attribute the lowered prices to the vast importations of Spanish Grapes seen on every hand, and because of the general excellence of the samples furnished and their relative cheapness. That may be an important factor in the reduction. Still, the best of these, good as they are, cannot compare in excellence with moderately good Colmans and Alicantes grown at home. There is also to be considered the wide supply of various other fruits furnished in the autumn and winter." I venture to think that the London shop prices have not been noted by this writer.—D.

Reminiscences.

Time speeds on with rapid wings, and once again we find ourselves giving and receiving the customary New Year congratulations. As we sit here, within view of the snow-clad Grampians, we would cordially extend to the staff of our good old Journal, and to its numerous readers everywhere, our sincere and hearty good wishes for continued and increased prosperity. Our earnest wish is, that the Journal which has so long proved a wise counsellor and a sound and trusty guide to many in days gone by, may in the future have its already wide field of usefulness still further extended. It is well nigh a quarter of a century now since we commenced reading the pages of the Journal, and many a pleasant and profitable hour has been spent during that period perusing its pages, so full of interesting and instructive matter.

Almost twenty years have now elapsed since we had the temerity to pen a brief paragraph for its pages, and it was a proud day indeed for us when we saw our first effort appear in print, and also received a kindly and encouraging letter from the sub-editor. And as we sit to-day and ponder over the past, many a pleasant memory of bygone days comes back to us—memories of those who were once familiar to us by their instructive articles in the columns of our Journal, but whose pens have long since been laid aside. Still, their beneficent influence has not lost its effects, and their wise and practical teachings continue to bear fruit. How memory wanders, once she gets a loose rein, and we are carried away back now to a time when the late Editor spent a brief holiday among the "bonnie hills of Eskdale," which must be seven or eight and twenty years ago. The writer of these lines was only a schoolboy then.

Many who were at that time bearing the heat and burden of arduous cares and toils, have long since gone to their long home, but their memories are with us still. To-day do the memories of those dear friends come back to us with a sweet and comforting fragrance, for many a cheering word, and many a kindly act, did they accord us. But we must rein in our wandering steed, and come to more recent times.

The first year of the twentieth century has come and gone, and we have been permitted to pass one more milestone on the great highway of life. How many will pass the next we dare not presume to say. The great army of horticulture is still pressing on, still progressing, still achieving victories. As we review the past year, we have mixed feelings indeed, feelings of gratitude to Him who is the All-wise Ruler of all things, for the large measure of success that has marked the progress of horticulture during the opening year of this century; and feelings, too, of pain and sorrow, as we think of the losses that our ranks have sustained during that period.

Amongst the fallen are some who exercised a great influence upon, and performed yeoman service in, the vast domain of horticulture, men whose names were familiar the whole wide world over, men who, as it were, were leaders in our peaceful army, and their vacant places will be hard to fill. There are others also in greater numbers in the rank and file of that great army, men whose names were perhaps unknown beyond the immediate sphere of their labours, yet who, nevertheless, nobly and faithfully filled their posts, and conscientiously discharged arduous duties in many an obscure position; they, too, have gone the way of all flesh, and we miss them much, and "Long for the touch of a vanished hand, and the sound of a voice that is still."

Repining and vain regrets, however, will avail us nothing; we must be up and doing, fill the vacant gaps in the ranks, and imitate the noble example which such faithful ones and true have left behind—a glorious legacy to all succeeding time. Failures there have been in the past—aye! many of them—but to the man of pluck and determination these only act as incentives to renewed and strenuous efforts, and such failures are eventually made stepping-stones to future success. Let us learn, then, the lessons from the pages of past experiences, whether these be failures or successes, and thereby equip ourselves more fully to battle with, and overcome, the many obstacles and difficulties which may obstruct our progress in the future. Let unity and self-help be ever our watchword, and through the medium of the pages of our dear old "Journal" let the strong assist the weak, and the old and experienced stretch out a helping hand to the young and willing learner, and

thus we shall steadily make progress, and uphold in its high position the grand old traditions of British horticulture.—ALBYN.

Things I Should Like to Know.

As I sit down to write, hosts of things in this great world of ours—which seem to be beyond my comprehension—rise before me like a "mountain" shrouded in mist. About some of them I dare not write; of others I should perhaps not learn much by publishing my ignorance abroad. I will therefore come down to the common things of life, about which the followers of Adam's art should know at least "something."

I have done many things during the recent festive season; some were perhaps "wise," some "otherwise." Such matters depend upon the view of each individual. One thing I did—which to my mind, at least, seemed not a foolish one—was to "sample" a great many Apples of various degrees of excellence, instead of partaking largely of more substantial fare. I ate freely of the good old English Blenheim; of the still choicer Cox's Orange Pippin, and I tried hard to discover some great point of merit in the famous "Newtown Pippins," but the more I tried the more I wondered upon what their fame has been built.

In point of flavour they are infinitely inferior to Cox's Orange Pippin, and although large, not so attractive in appearance. Blenheims are also better to look at than "Newtowns," and I think also a "wee" bit better in flavour. Now, this is one of the things I want to know—why the British public will pay sixpence per pound for Newtown Pippins, when they can get good Cox's for threepence? These are the retail prices for good samples in hosts of shops at this season of the year. There is no Apple in the world to compare with Cox's in point of flavour, or, if there is, I should like to see it. A hundred acres planted with that variety at once could not fail to prove a profitable investment, if placed under skilful and energetic management, and I want to know if anybody is going to do it?

I should like to know if there are any signs at present that the enormous importations of Apples are likely to become less in the future? And if not, why not? Is it because good samples cannot be grown with ordinary care in England? Or because there is only a limited amount of soil suitable for the purpose? Neither supposition seems satisfactory, because I have seen a few Apple trees during the last six months, and although they were growing in soils having widely different characteristics, the Apples seemed "all right" where the trees had been well looked after.

I have noticed during my peregrinations that, considering what a tight little island this is, and how thickly it is peopled, there seems to be a precious lot of land growing "nothing much," even in districts where I see a few odd Apple trees doing well.

This has set me thinking (I do think occasionally!), but I have never thought long enough, or deep enough, to find out why the British people are content to depend so largely upon the foreign supplies of a fruit which is indigenous to their own land.

"Ah!" those who know something about these matters may exclaim, "capital is required to embark in fruit growing." Well, there is plenty of capital in this country, and it seems to flow in freely enough when some wild cat scheme of company promoting is in progress. If a thousandth part of the capital which has been lost in such schemes had long ago been devoted to the formation of a British Apple Growing Company, conducted on honest and business like principles, I guess there would have been fewer foreign Apples in England to-day. And the "wasted" capital would have had a "grand asset" in the shape of magnificent orchards.

I wonder why a combine is not formed to accomplish what isolated individuals have so long neglected. This is one other "little" thing I should like to know. Concerning all these matters I have a thirst for knowledge, and yet my ignorance is so great that I feel bound to subscribe myself—IGNORAMUS.

Apple, Lord Grosvenor.

The illustration on this page represents a flourishing espalier-trained tree of Lord Grosvenor Apple, planted in 1878. It almost annually bears an excellent crop of fine fruit. It was planted by Mr. John Masterson in the gardens at Weston House, Shipston-on-Stour, Warwickshire, the seat of the Earl of Camperdown. Mr. Masterson informs me that Lord Grosvenor Apple succeeds remarkably well at Weston.—G.

Suspected Sleepers.

We live in an age of contradictions; we see this for one thing in the treatment of animals, where cruelty and over-tenderness often run side by side. Some people are averse to see any insects killed, though even the gentle poet Cowper admitted that the pests of the garden or the foes of the human body should be destroyed when it is possible. What amount of feeling insects



AT WESTON HOUSE, THE SEAT OF THE EARL OF CAMPERDOWN.
WIRE TRAINED ESPALIER APPLE TREE, VARIETY, LORD GROSVENOR.

have must ever remain a doubtful point, but it is allowed they have more sensibility than was formerly supposed. Something depends, of course, upon the stage of life in which an insect is, and it will save the trouble of killing a caterpillar to crush the egg from which it will emerge in the spring, and numerous patches may be discovered in various places with a little research. More profitable still is it to destroy the pupæ, which live through the winter, because one as a moth may be the parent of hundreds of caterpillars. A pupa or chrysalis in its winter sleep cannot have the sensibility of an active insect.

Digging during winter and spring is sure to bring to light the pupæ of moths, amongst other things. They turn up singly, and occasionally in little groups, where a party of caterpillars happened to have fed on some plants. Elsewhere we may find pupæ, in garden edgings, upon palings or walls; but mostly they produce moths that are not parents of pests—some are, no doubt. Then the pupæ of the common white butterflies, well-known enemies of horticulture, may be detected from September to April, fastened up by a silken band. Nor are all the pupæ we bring out of the soil prolific in troublesome caterpillars. A few are pretty and harmless garden species; still, most belong to the *Noctua* tribe, the caterpillars feeding often on the stems or roots, much to their detriment; also, sometimes, they strip the leaves extensively. It is therefore quite justifiable to give such sleepers a quietus that is final. We are more likely to turn up these *Noctuas* about the kitchen garden than along the flower borders, but they are distributed in various places, and even an ento-

mologist cannot always discriminate the species. Therefore it is needful to destroy all we can, even if some innocent have to die among the probable pests of another season. It is not needful to give a complete list of the possible finds. I will refer only to a few specially noteworthy for their abundance or their activity, and no one has a better claim to the first place than the prolific Cabbage moth, *Mamestra Brassicæ*.

Generally, its pupa lies at no great depth in the soil, and it is one greatly relished by poultry, so when they have the opportunity, they scratch the beds eagerly to obtain this and other pupæ. Some people, indeed, advocate turning fowls out to act as insect-killers about a garden, but their proceedings are, on the whole, undesirable, since they attack the crowns or roots of many plants for variety. The caterpillar of this species is best known in the kitchen garden, where it revels in the hearts of Cabbages, Lettuces, Seakale, and other species; also feeding exposed on the outer leaves. Amongst the flower beds it makes havoc, frequently selecting Dahlias, Pelargoniums, and Marigolds. To escape detection it will rest on the earth, or just below it, by day, and feeds at dusk. Its colour varies much, different tints of brown, or dull green, with a few black markings. Apparently, there is a succession of these caterpillars, for they are to be found feeding during two or three months. The moths fly in May and June, when some gardeners capture hundreds by putting sugar on walls or palings, and catching the sippers with a hand net.

We pass to another species, not so plentiful as the preceding, yet probably better known to the gardener in its caterpillar state. The dot moth (*M. Persicariæ*) takes its English name from the conspicuous spot of pure white on the fore wings, and the caterpillar has markings that make it very recognisable. The general colour is either green or brown; the head is shining and mottled, behind it is a velvety patch, and along each side a series of stripes; just above the tail is a hump. When alarmed this caterpillar rolls into a compact ball, falling to the earth; otherwise it feeds full in view upon many plants, and, I fancy, is not a species often seized by birds. We not uncommonly observe it upon herbaceous species along the borders till late in autumn. The pupa turns up from a depth of a few inches lying in a slight cell. If allowed to emerge, the moth lays eggs during July. Frequently, however, we have cases of *Noctua* caterpillars feeding through part of the winter. For example, a near relative of the Cabbage moth, quaintly called the Rustic Shoulderknot (*Apamea basilinea*), begins its career as caterpillar by feeding upon the ears of corn in autumn. Carried to barns or granaries, they repose through the winter, and travel out during spring to devour the roots and underground stems of various plants

in fields or hedgerows. Their growth being slow, it is not until the second March that they are of full size, when they enter the pupa state beneath the soil.

Spring digging brings to light (and to death) some of these hibernators, as pupæ, should they not have been disturbed before by men or birds. But in several instances, caterpillars that pass through the winter do not sleep, save, perhaps, in sharp frost, but continue their operations upon the roots. Such is the habit of the Turnip moth (*Agrotis segetum*). Its partiality to the Turnip, above and below ground, prompted the English name, but it attacks a variety of plants in fields or gardens, and Newman chronicled great mischief caused to China Asters. Probably this insect would give more trouble to farmers if the caterpillar was not hunted by the partridge and the rook. Since it seldom becomes a pupa before May, it often escapes being dug up in that stage. The heart and dart moth, of the same genus (*A. exclamationis*)—I presume it got the Latin name because what some regarded as a dart-like mark on the wings others called a "note of admiration"—finishes its caterpillar career by October at the latest. It is desirable to kill the pupa when we can. It lies 3in or 4in below the surface. Not infrequently gardeners come upon the caterpillar, bluish brown, with a pale stripe and black head, during summer or autumn; but it is apt to escape detection from its habit of concealing itself in daylight. After sunset it wanders from plant to plant, feeding upon the crowns or lower leaves.

One of the handsome garden moths is named the Angleshades

(*Phlogophora meticulosa*). It is notable for its elegant markings more than for its colouring, and we have two broods, one appearing in May, the second in September. It is decidedly shy, hence seldom noticed. Its caterpillar is tolerably familiar, some shade of green, having numerous white dots, and a velvety skin, the head striped. Usually, it is not abundant enough to be very injurious. Its preference is for low plants, such as the Auricula and the Primrose. Occasionally it ascends the Chrysanthemum, more particularly the summer brood, hatched about June. The second brood feed slowly, and seem to live till March, when the pupa state is assumed. There is also a small Angleshades moth, the pupa of which may turn up amongst Ferns, but it is local.—
ENTOMOLOGIST.

The Uses of Cellulose.

A recent number of the "Chemiker Zeitung" gives an account of the many purposes for which cellulose is now used. As long ago as 1846 successful attempts were made to utilise raw vegetable products, wood and straw in particular, for the production of cellulose. It was prepared from these substances by means of caustic soda as a reagent. Of late years the reagent employed for the purpose has been a solution of calcium sulphite in sulphurous acid. The sulphite cellulose process is due to the labours in the laboratory of Al. Mitscherlich and Tilghmann. The slight variations in the chemical properties of the celluloses are of considerable importance to the manufacturer. By hydrating cellulose with acids, continues the translator in the "Westminster Gazette," we obtain hydro-cellulose, which possesses the peculiar property of falling to powder at the smallest provocation. This property accounts for the brittleness of paper made from cellulose in which some of the acid still remains. It explains how in the cloth manufacture cellulose is removed from wool by treatment with sulphuric acid, aluminium chloride, &c. The carbon filaments for electric lamps are made from the plastic substance obtained by heating cellulose with H_2SO_4 . Grape sugar is formed by hydrolysing cellulose with acids. By this means wood refuse can be made available for the manufacture of sugar and alcohol. Count Chardonnat discovered a way of utilising the fibres of cellulose for textile purposes. Sulphite cellulose has a silky lustre when moist, and the fibres formed therefrom retain the sheen of silk. Cellulose treated with cold concentrated soda lye, or mercerisation, as the process is called, is used in the manufacture of crepon, which has partially replaced crinkled crepe. The artificial silks can be readily distinguished from the real article. They are not so strong as real silk, and in water they become still weaker, so that microscopic examination differentiates the two products at once. Verily, things are not what they seem.

Moles, and Mole Trapping.

The common mole (*Talpa europæa*) is familiar in England, Wales, and Scotland, but comparatively rare in Ireland, and is the only British representative of the family Talpidae. The females bring forth four or five young about the month of April, and these are lodged in a special nest carefully prepared by the parent animals. The nest is generally formed at the intersection of several passages, and is lined by young grass and soft roots. A hillock usually, though not always, marks the site of the nest. The galleries of moles exhibit great ingenuity and skill in their excavation; the habitation, formed under a hillock, consisting of an upper and lower gallery. From this central point, the galleries communicating by five passages, the principal chamber being contained within the lower and larger gallery, the mole excavates a series of tunnels leading to the foraging or hunting ground of the animal, these roads, called "runs," being so arranged as to afford easy and instant access from any point to the central galleries or place of habitation.

Moles live in pairs, and appear rarely to invade the territories of neighbouring families. The food consists of worms, insects, and larvæ; and they are said to skin the worms before eating them. In habits they are exceedingly voracious. Hunger soon kills them, and that they are of a pugnacious disposition has been proved, the weaker forms being inevitably slain when an encounter takes place, as occasionally happens in the roads and tunnels of the habitations. The moles appear to require a large supply of water, and miniature wells are sunk in various situations, when they are situated at a far distance from a brook or ditch. The question of their hibernating habits in winter is not definitely settled. It is certain, however, that during the colder season they display much less activity than in spring and summer.

The great fostering places of moles are woods and commons. There they do good in destroying larval pests, but from such places they make excursions into cultivated ground, and on account of their tunnelling the soil, cutting the roots of plants, they do much harm to crops in fields and gardens, whilst their earth-heaps interfere with grass-cutting in meadows and orchards, and are a great eyesore on pastures, parks, and lawns. There is no doubt that the mole is a most useful animal in the semi-nature of woods, woodlands, moorlands, commons, and other uncultivated tracts. In nurseries, gardens, parks, and fields it drives the cultivator almost to distraction with the mischief it works. It burrows under the beds of seedlings in the nursery, delights in the seed-beds in kitchen gardens, loves to tunnel in flower beds, bedecks the verdant grass of lawns with little heaps of mould, ploughs under crops on richly manured drills, and top-dress pastures and meadows, cutting up the ground into trenches, with here and there a little heap of fertilising mould. The bull is a very useful animal in the field, but in a china-shop notoriously destructive, and in a similar fashion the mole, which is beneficial to semi-wild woods, woodlands, moors, commons, and other uncultivated tracts, is by no means a proper inhabitant of the field, nursery, and garden.

One thing about the mole calls for particular note—namely, its taste for a rich, nourishing dietary, it always taking opportunity of feeding in the best soil, where the worm is fattest and larvæ fullest fed and most luscious, hence its penchant for cultivated land; and, once there, seldom leaves it for the relatively indifferent fare of the wood, woodland, common, and waste. There is, therefore, nothing for it in the way of riddance than either to drive the mole away or trap it, nothing short of driving away or extirpation being of any avail.

Driving Moles from Gardens.

For driving moles from gardens, green leaves or parts of dwarf Elder (*Sambucus edulus*) may be placed in their runs. The smell of common Elder (*S. nigra*) is also very offensive to the mole, and fresh leaves placed in their main subterranean paths, particularly where they enter gardens, orchards, or pleasure grounds, which is also the best place to set traps, will soon cause them to disappear. It follows, however, that the mole being "in," it will be hindered passing out by the objectionable substance, and it may be stated here that if the mole-catcher does not want to catch moles he has only to use a forked piece or table of Elder in the trap.

I do not, however, desire to entrench on the province of the mole-catcher; therefore, if there be a professional mole-catcher in the neighbourhood, he should be summoned to the spot where the mole or moles commit havoc and set on the track. Failing this, the ingenuity of the cultivator must be brought into play. He may proceed against the mole by poison, of which Sandford's mole poison (in paste) is most in repute, or by setting traps, of which the iron ones sold by ironmongers are useful; and any intelligent labourer will catch the moles, setting and looking after the traps in his leisure time at a bonus of 2d. or 3d. per head. Moles, however, are less suspicious of wooden traps than they are of cast-iron ones, not any trap being so "killing" as the old-fashioned wooden one with stake spring, to which I would now briefly refer, as the explanation of the construction is clearly defined in the references to the illustrations.

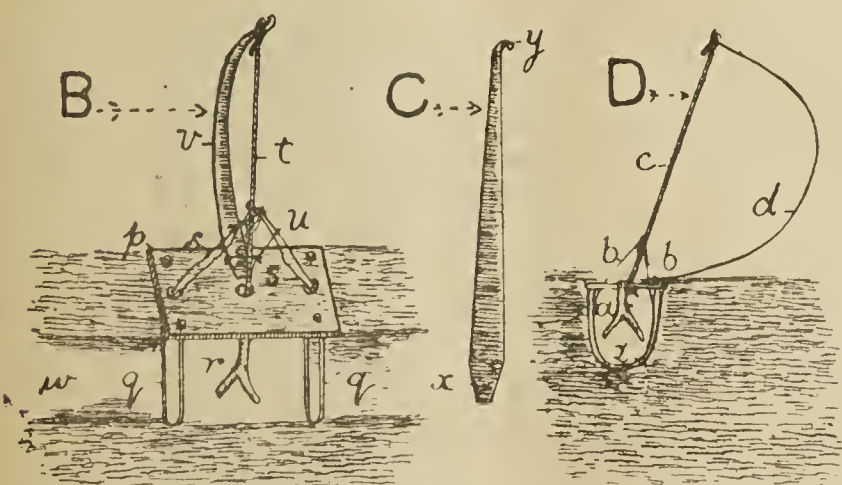
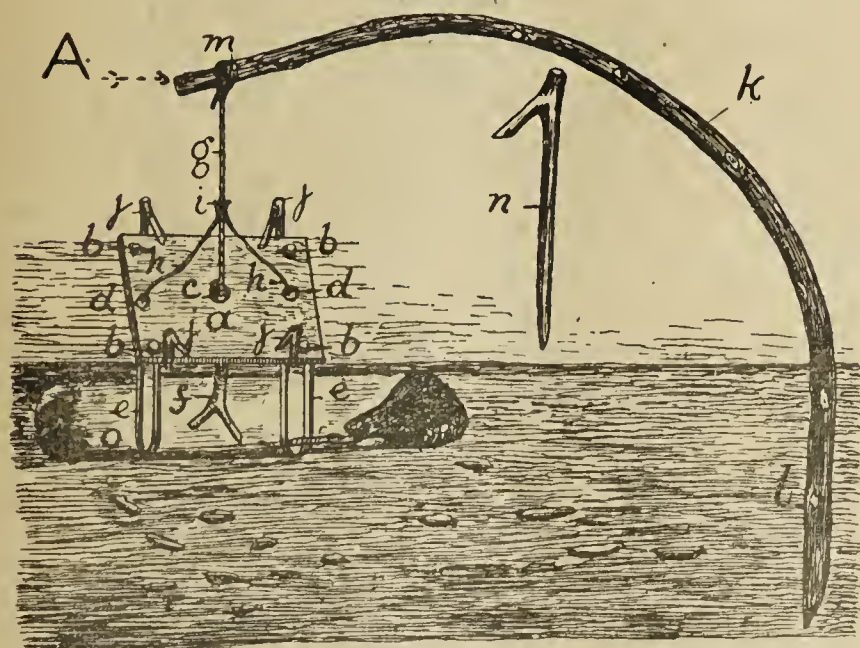
Fig. 1 (A) is a mole trap for setting level with the ground in a run of the mole. In setting, care is taken to open out and lead inside the wooden loops the catch-wires, using a little wet earth if necessary; affix the spring string firmly by means of the fork piece or table; peg well down, and then adjust the spring string to the spring stake. In setting the trap care is taken to disturb the run only enough to allow the loops to enter it. A mole passing through the run has to go through the loops, and in its passage has to push away the fork or table, when the string is forced upward by the spring, drawing up at the same time the loop wires, between which and the board the mole is caught. The trap is useful in shallow runs, but too wide for deep runs, hence I give sketch of another wooden mole trap useable either with a stake spring or steel spring, and either shallow or deep runs.

The trap alluded to I call the Kent wooden mole trap, shown set at B, and its construction given in the references. With the steel spring it is very handy for gardens, fruit plantations, &c., and may be employed for shallow runs, and even for those 4in to 6in beneath the surface by taking out a notch of soil to allow the spring to pass down. For a deep run the steel spring may be taken out, the spring string added to so as to lengthen to the surface of ground, and a stake spring employed. It is a very killing trap, handy, and durable, the frame and loops being of hard wood, with all the edges rounded off.

The chief art in catching moles is in choosing the "runs" in which to set the traps. In soft ground a mole makes a new run in order to avoid a trap. In the case of shallow runs it is advisable to tread the run down, closing it with the foot, for about a foot length, and if the mole passes through, forming a new run, set the trap in the relatively firm ground. As the moles usually return to banks and dry places to rest, a "run" through

hard ground, between their hunting grounds and their resting places, generally makes sure work of them, the traps being properly set. If the Kent trap is used with a stake spring pegs must be employed to keep it firmly in position.—G. ABBEY.

[We trust to be able some time in the future to show another form of mole trap, principally employed in the South of Scotland, where moles are plentiful.—Ed.]



MOLE TRAPPING. SCALE: $\frac{1}{8}$ IN. TO INCH.

- A, wooden trap for setting in runs near surface of ground; *a*, piece of $\frac{1}{2}$ -inch board, 6 inches long by 4 inches wide, forming top; *b*, holes near corners, into which ends of bows are fixed; *c*, $\frac{3}{8}$ -inch hole in centre, through which spring string is passed when trap set; *d*, catch-wire holes, through which the wires for capturing the moles are passed when trap set; *e*, bows, each formed of $\frac{1}{2}$ -inch hoop pole, split or flat inside, the ends pointed a little, and so bent as to form the bows, and the ends pass through the holes at the corners, there securely wedged; *f*, fork-piece, straight end round pointed, so as to fit in the central hole of the main part of the trap; *g*, spring string (whipeord) about 7 inches long, with knot at lower end and loop at upper end, and this large enough to pass twice round the end of the spring stake; *h*, catch-wires, each double, and consisting of fine copper wire, the piece being about 12 inches long, and both ends firmly twisted round spring string above a knot on the latter about 2 inches from lower end; *i*, point of affixing catch-wires to spring string; *j*, peg by which trap is secured in position; *k*, spring stake, usually Hazel, about 1 inch in diameter; *l*, end of spring stake thrust into ground; *m*, spring string looped twice over end of spring stake bent over; *n*, peg, it and three similar being necessary to set trap; *o*, mole run. The trap is shown set, and drawn to scale, $\frac{1}{8}$ -inch to 1 inch.
- B, Kent wooden mole trap; *p*, $\frac{3}{8}$ -inch board, $5\frac{1}{4}$ inches long by $2\frac{1}{4}$ inches wide, with four holes near corners, into which bow or loop ends are secured, a $\frac{3}{8}$ -inch hole in centre for spring string and fork-piece, and two holes at middle (and opposite loop holes) near each end for passing catch-wires through; *q*, bows or loops, $\frac{3}{8}$ -inch wide and $\frac{1}{4}$ -inch thick; *r*, forked-piece or table; *s*, catch-wires, the loop being about 6 inches long or 12 inches length of wire doubled; *t*, spring string; *u*, galvanized wire loop for affixing spring into, the ends of wire being passed through top and turned back on under side and clenched; *v*, steel spring; *w*, mole run. The trap is shown set, scale $\frac{1}{8}$ -inch to 1 inch.
- C, steel spring for Kent mole trap, 11 inches long by 1-sixteenth inch thick; *x*, diminished end for affixing into wire eye; *y*, hooked end for holding catch string. Scale $\frac{1}{8}$ -inch to 1 inch.
- D, Kent mole trap in section; *z*, bow or loop with wires guided inside; *a*, forked-piece or table; *b*, catch or loop wires; *c*, catch or spring string; *d*, spring. Scale $\frac{1}{8}$ -inch to 1 inch.

Societies.

Beckenham Horticultural.

A good muster of members were in attendance on Friday evening last to hear a lecture on the "Canna" from Mr. H. Cannell, of Swanley. A table of the wonderful vegetables and fruit from the Swanley and Eynsford Nurseries were on view, and proved a source of great attraction and general interest. As a prelude to the lecture, these were profitably discussed, Mr. Cannell emphasising the fact that more vegetable and fruit might well be consumed in place of animal food with benefit to the system, Mr. Cannell himself practising what he preaches, not having eaten meat for the past seven years, his health and weight being thoroughly satisfactory. The lecturer then reviewed the history of the Canna, relating some interesting experiences.

The culture of the Canna, both for indoor work and for bedding, was thoroughly explained, the sowing of the seed, which on account of its hardness should be filed through the outer coat and placed in water on the hot-water pipes for a few days previous to sowing. Propagation by division was shown. The soil for Cannas would be similar to that used for the production of exhibition blooms of Chrysanthemums, as they must be grown vigorously, and so acquire a soil well stored with nutrition; strict attention to watering must be given, the Canna being a thirsty subject. Ventilating, shading, in fact no detail was overlooked by Mr. Cannell, he remarking that much of what he said was equally applicable to other plants. A hearty vote of thanks was enthusiastically accorded Mr. Cannell, who, when acknowledging the same, promised to come at some future time and tell how those remarkable Onions, &c., on view are grown at Swanley.—T. C.

Prescot Horticultural.

Not having a set syllabus of meetings arranged, it must have been gratifying for members to be honoured with a visit from Mr. F. W. E. Shrivell, F.L.S., F.R.H.S., the chairman being Professor Daine, of Woolfall Hall, Huyton, who spoke in strong terms of the small interest taken by gardeners in Lancashire on the question of technical education.

Mr. Shrivell lectured on "Chemical Manures in Fruit and Kitchen Gardens," based upon experiments carried out by himself and Dr. Bernard Dyer. A number of valuable hints were given, a few being that a continued use of one form of manure not being advocated. Farmyard manure was considered the most valuable; failing this chemical, which were often styled artificial, but which were in reality natural products. Kainit and superphosphate being slow in action, were best applied during winter, and nitrate in spring.

To use nitrogen alone, soft wood and much foliage, at the expense of fruit, kainit, and basic slag, would encourage Trefoil and Clover.

Sewages he did not countenance for anything that would be eaten raw, such as Celery, Radishes, &c. An ounce of nitrate of soda in a gallon of water applied once or twice a week, commencing when the fruit was formed, was valuable for Tomatoes, also for Chrysanthemums. Fowl manure should be mixed with ashes or earth, and not with lime, and used in a dry state.

Pig manure was valuable for Roses, and bone dust and nitrate as a growth stimulant.

Gas lime should be used carefully, but he was not in favour of it among fruit trees. Peruvian guano he considered excellent.

A more than interesting discussion ensued, the lecturer advocating careful discrimination in using manures until a thorough knowledge was gained. Throughout, the lecturer seemed to have the thorough attention of the audience. Messrs. Beesley and Finney moved and seconded a hearty vote of thanks.—R. P. R.

Ipswich Mutual Improvement Association.

The opening meeting of the session was held in the Co-operative Hall, Carr Street, on January 2. In the absence of the president the chair was taken by Mr. Sowman, Hort. Lect. to the East Suffolk C.C. The essayist for the evening was Mr. W. Chandler, gardener to D. Ford Goddard, Esq., M.P., and his subject, "Three Good Winter Flowering Plants." Mr. Chandler explained in commencing that his paper was really a continuation of the paper read before the society on November 21, when he had originally selected six plants; but time only permitting him to deal with three, the committee had kindly given a later date for dealing with the remainder. The plants he proposed treating upon were Zonal Pelargoniums, Poinsettias, and Euphorbia jacinthiflora.

The system he followed with Zonals is to strike cuttings in autumn or early spring, transferring the plants to frames in spring, repotting when necessary, giving the final shift into 32's early in June, and standing the plants outside in a sunny position. All flowers should be pinched off, and the shoots frequently stopped until August. Turning to Poinsettias, he advocated giving the old plants a good rest after flowering. Cut

back the old plants in spring, and when they break take off the cuttings with a heel; insert singly in small pots, and place in a propagating case having a brisk bottom heat. Pot off into 60's when well rooted in a compost of loam, leaf mould, and sand. Transfer into 48's, and place out into a frame until September to ripen the wood. He did not advise the use of stimulants until the bracts were showing, as they only tended to increase the height of the plant without increasing the size of the bract if given before.

The culture of *Euphorbia jacquiniæflora*, the essayist remarked, was somewhat similar to that required by the Poinsettia, but they must not be placed outside in frames. The plant also thrived well if planted out in a warm house. The discussion which followed turned mostly upon methods of propagation of the plants mentioned, and was sustained by Messrs. J. Morgan, Barker, Whittell, A. Creak, Osborne, Close, and the chairman. Votes of thanks to the essayist and chairman concluded the meeting.—E. C.

Royal Meteorological Society.

The annual general meeting of this society is announced for the 15th inst., at 7.45 p.m., to be held at Great George Street. Dr. Alexander Buchan, F.R.S., will then receive the Symons Gold Medal. Mr. W. H. Dines, B.A., president, will deliver an address on "The Element of Chance to Various Meteorological Problems."

Metropolitan Public Gardens Association.

At the monthly meeting of the Metropolitan Public Gardens' Association, held on New Year's Day, at 33, Lancaster Gate, W., Sir William Vincent, Bart., vice-chairman, presiding, it was stated that the receipts during 1901, amounting to about £3,300, showed a decrease of about £1,200 as compared with 1900, which was partly attributable to the adverse effect of the war and its allied causes in having deprived the association of certain specially generous support, and in having diverted or lessened the flow of general contributions. Draft of the annual report for the past year was read, and approved, subject to certain amendments. A report was received from the landscape gardener who had recently visited a number of parks and open spaces in the United States. It was stated that the laying-out work at St. Philip's Churchyard, Avondale Square, was nearly completed.

Open Spaces.

Progress was reported with regard to schemes for securing and laying out the churchyards of All Saints', Poplar, and St. Paul's, Clapham, as gardens for public use. The Charing Cross, Euston, and Hampstead, and the Hampstead and Edgware Railway Bills were considered, whereby it is proposed to make no less than four tunnels under Hampstead Heath and Golders Hill Estate, recently added thereto. It was decided to take steps to oppose schemes which might greatly disturb the light sandy soil of the Heath, and cause serious injury to the splendid trees and other vegetation growing thereon. The Earl of Dysart's Bill was also considered for dedicating certain

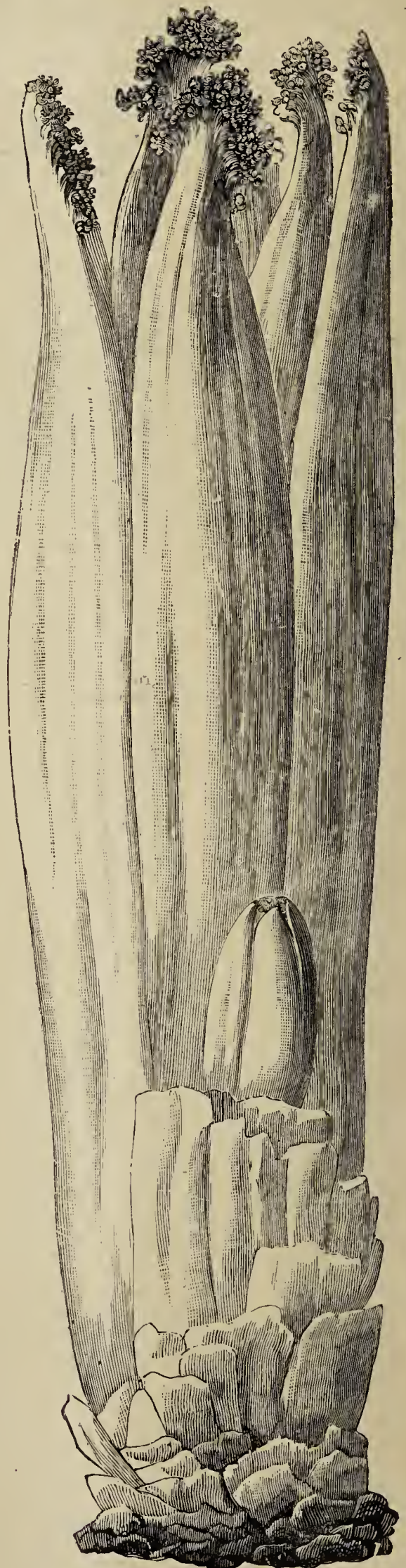
Riverside Lands

to the public at Richmond and Ham, and at the same time to extinguish common rights over a large area known as Ham Common Fields, and it was agreed to await the receipt of the plan referred to in the Bill before taking action. Amongst a large number of items on the agenda were proposals for securing vacant sites in North Fulham, where recreation grounds are badly needed; Denmark Hill, Southfields, Wandsworth, Cold Blow Lane, Deptford; Cliffords Inn Garden, Clapton Square, and land at Waltham Marshes.

Seakale, Lilywhite.

Within the last few years the old variety, the Common Seakale (or Sea Kale) has, according to our experience, gradually been losing ground in favour of the Lilywhite, an improved sort, yet not so hardy. For those who force Seakale, Lilywhite should prove the best. So far as we have had experience of its merits, and from reports gathered in Yorkshire, London, and elsewhere, it is spoken of as growing well, keeping healthy during winter even on damp soils, and for forcing purposes it appears to be superior. Others again complain that it is too tender to do well. This may be true northwards, and in quarters unfavourably situated. We do not want to mislead growers, and perhaps

those who have had experience extending over a number of years might kindly send a note to the Journal, stating what they know, and how they find the variety Lilywhite to do with them.



SEAKALE, LILYWHITE.

THE BEST VARIETY BOTH FOR APPEARANCE AND QUALITY.

We would then see how opinion lies. For ourselves, we find Lilywhite doing well on highly cultivated, dark loamy soils.



Hardy Fruit Garden.

PLANTING BUSH FRUIT.—Currants, Gooseberries, and Raspberries still requiring to be planted may be placed in the ground on the first favourable opportunity, when the holes for the reception of the roots can be prepared without the soil sticking to boots and tools. It is a good plan at this season when planting to prepare a heap of compost of a dry, crumbly character, intermixing for the purpose wood ashes, old potting soil, and decayed manure. These materials, mixed and kept under cover until wanted, will be found admirable to sprinkle over the roots when planting. If all the injured roots are pruned smoothly and spread out carefully, they will quickly emit fresh fibres, and the new growth in spring will be vigorous and free. Give ample space for the bushes, 6ft not being too much for Gooseberries and Currants. Raspberries may be planted in clumps 3ft to 4ft apart, or in lines 5ft apart. A mulching of light, short manure will serve as a protection against frost.

CORDON GOOSEBERRIES AND CURRANTS.—Growing Gooseberries and Currants as cordons on walls and trellises is an interesting method of growing these fruits, and is particularly suitable for affording a late supply of fruit, especially when grown on north walls. The soil ought to be prepared not less than 2ft wide, and the same in depth, at the foot of the wall or fence. Single cordons may be planted 6in to 8in apart, training one shoot uprightly. One plant may be trained to furnish three shoots, in which case plant 18in apart, and cut down the growth to a limited number of buds at the base. When they push in spring select three of the best—one to train upright, and the others, one on each side outwardly, but allowing them to grow the first season in an upward direction. The following season prune back to a bud at a distance of 6in from the central stem. Also shorten the latter to equalise growth, and train from each a leading growth in an upward direction. The side growths which push from the older parts of the upright stem the following year must be summer pruned and shortened back to form spurs in winter. If the leading growths are pruned back one-third each season, the side growths will push regularly, and these spurred in to one or two buds annually will produce fruit.

HEADING BACK TREES FOR GRAFTING.—Old, healthy, but unfruitful trees it is intended to improve by grafting, ought now to have the main stems shortened back to near the point it is proposed to insert the grafts.

CUTTING SCIONS.—Scions from Apples and Pears should be well ripened shoots of last summer's wood. They ought to be cut now, being perfectly dormant, tied together with names of varieties attached, and laid in in moist soil under a north wall. —LYMINGTON, HANTS.

Fruit Forcing.

EARLY VINERIES.—Careful attention must be given to these in ventilating, so as not to admit cold draughts of air, which cripples the foliage and produces rust on the berries. Disbud when the best shows for fruit are discernible in the points of growth, and tie the shoots down before their points touch the glass. In stopping, be guided by the space at command. If the distance between the rods does not admit of much extension beyond the bunch, stop one or two joints above it, always allowing space for one or two joints of lateral extension. But where there is room stop three or four joints beyond the show for fruit, nipping off the points of the shoots when the leaf at the stopping joint is about the size of a penny, and the tendrils as they form. Extend the laterals so that an even spread of growth will be insured, but do not crowd the trellis with more foliage than can be fully exposed to light. Remove all superfluous bunches, overcropping being the precursor of deficiency of colour, and some say of shanking in the Grapes. When the flowers open maintain a night temperature of 70deg to 75deg when mild, about 5deg less if severe weather prevail, and insure moderate humidity in the atmosphere. Where fermenting materials have been employed in the house, do not allow the heat to decline at this critical stage, but make additions of sweetened material as required to maintain the heat of that in the house with regularity.

VINES STARTED AT THE NEW YEAR.—The inside border must be brought into a thoroughly moist condition by repeated waterings or liquid manure not less in temperature than the mean of the house. The liquid manure will enrich the soil, and its value will be seen later in the increased chlorophyll in the leaves and the berries. This means good colour later on; but avoid making the soil sodden and sour by needless early

waterings, as this only hinders root action, and favours soft growths with their flabby leaves. A heap of fermenting materials on the floor about 18in deep, turning a portion of it daily, is conducive to an even break, and favours speedy growth.

Where this cannot be secured sprinkle the floors and borders in the afternoon with liquid manure, the neat drainings of stables and cowhouses, diluted with six times the quantity of water. This will in due course decompose, and ammonia be liberated, which, being volatile, form with the moisture also given off from the soil an ammonia-charged atmosphere highly conducive to rapid vegetation.

The outside borders should be amply protected against frost, for the roots cannot derive nor transmit nourishment from a frozen soil. If the roots of the Vines are entirely outside the border should have a good supply of fermenting material, and if this may not be owing to the scarcity of material, afford dry litter, or fern, or leaves, so as to modify in some measure the chilling tendency of cold rains or snow. Attend to the protection of the stems, for if these become frozen it is likely the crop will be destroyed, if not the Vines, down to where frozen. Sprinkle the Vines two or three times a day in bright, dry weather, occasionally only in dull. Maintain a night temperature of 50deg to 55deg, 60deg to 65deg by day, ventilating freely about 65deg, and close at that point. The rod and canes of young Vines should be placed in a horizontal position, or lower, to secure the buds breaking with regularity.—ST. ALBANS.

Publications Received.

Quarterly Leaflet of the Women's Agricultural and Horticultural International Union; December, 1901. Straker, Ludgate Hill, E.C. * * *Industrial Canada*: Convention number, 120 pages. Issued by the Canadian Manufacturers' Association. * * *Gartenflora*: coloured plate of *Prunus Pseudo-Cerasus Watereri*. * * *Sunset*: a Californian monthly, general magazine. * * *Sale of Food and Drugs Act* (copy of): Board of Agriculture. * * *Women's Agricultural Times*.

Trade Circulars.

Wm. Wood & Son, Ltd., Wood Green, London, N.

Trade Catalogues Received.

Barr & Sons, 11, 12, and 13, King Street, Covent Garden, London.—*Seeds*.

George Bunyard & Co., The Royal Nurseries, Maidstone.—*Seeds*.

H. Cannell & Sons, Swanley, Kent.—*Chrysanthemums*.

Clibrans', 10 and 12, Market Street, Manchester.—*Seeds*.

Wm. Cutbush & Son, Highgate, London, N.—*Seeds*.

W. Drummond & Sons, Ltd., 57 and 58, Dawson Street, Dublin.—*Seeds*.

W. J. Godfrey, The Nurseries, Exmouth, Devon.—*Chrysanthemums*.

Kent & Brydon, Royal Seed Establishment, Darlington.—*Seeds*.

Little & Ballantyne, The Royal Seed and Nursery Establishment, Carlisle.—*Seeds*.

Albert Upstone, Seed Warehouse, Rotherham, Yorks.—*Seeds*.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1901-2. December and January.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
Sunday ...29	S.W.	deg. 42·5	deg. 41·2	deg. 52·1	deg. 39·3	Ins. 0·35	deg. 36·9	deg. 39·3	deg. 44·0	deg. 33·8
Monday ...30	S.W.	52·1	50·8	55·9	40·4	0·13	38·9	40·0	43·8	38·5
Tuesday...31	S.W.	53·4	51·8	55·1	51·5	0·05	42·4	41·1	43·7	48·8
Wednesday 1	S.W.	44·9	43·1	52·5	42·9	0·20	44·4	42·7	44·0	36·3
Thursday 2	S.W.	45·9	43·9	51·6	43·5	—	44·4	43·3	44·1	39·6
Friday ... 3	S.E.	38·2	37·6	52·8	37·8	—	43·1	43·8	44·5	28·3
Saturday 4	S.W.	51·4	49·6	52·4	38·0	0·15	44·7	43·9	44·8	35·2
MEANS ...		46·9	45·4	53·2	41·9	Total. 0·88	42·1	42·0	44·1	37·2

Mild wet weather has been the prevailing feature during the past week. Sunday last was an especially fine day.

An Observer's Notes.

Under this heading there are many short interesting notes our readers might send.

JANUARY 10-16.

PLANTS DEDICATED TO EACH DAY.

Fri. 10	Common Bunting sings.	This-year's Moss.
Sat. 11	Honeysuckle buds bursting.	Hygrometrical Moss.
Sun. 12	Furze flowers.	Yew tree.
Mon. 13	Long-tailed poacher goes.	Barren Strawberry.
Tu. 14	Marsh Titmouse sings.	Ivy.
Wed. 15	Hedge Accentor sings.	Common Dead-nettle.
Thrs. 16	Naked Jasmine in full flower.	Garden Anemone.



* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

PLANTS FOR DAMP BORDERS (T. B.).—*Acorus gramineus*, *Aronicum glaciale*, *Caltha palustris flore-pleno*, *Cardamine pratensis flore-pleno*, *Dodecatheon Meadia*, *Epilobium angustifolium album*, *E. latifolium*, *Epimedium grandiflorum*, *E. pinnatum elegans*, *Ranunculus Ficaria flore-pleno*, *Hedysarum obscurum*, *Hepatica angulosa*, *H. triloba* vars., *Iris germanica* vars., *Lobelia fulgens*, *L. hybrida* vars., *L. syphilitica* and var. *alba*, *Lychnis chalcidonica* and vars. *alba* and *plena*, *L. diurna flore-pleno*, *Lysimachia grandiflora*, *L. thyrsiflora*, *Meconopsis cambrica*, *Mertensia paniculata*, *Myosotis dissitiflora*, *M. palustris*, *Nierembergia rivularis*, *Ophiopogon spicatus*, *Primula acaulis* vars., *Ranunculus amplexicaulis*, *Spiraea Aruncus*, *S. filipendula plena*, *S. japonica*, *S. palmata*, *S. venusta*, *Trollius europæus*, *T. japonica plena*, and *T. napellifolius*.

PROFITABLE RUNNER BEAN (E. T. H.).—"I am not one of those who go in for exhibition, though fond of my garden, and would like you to recommend me a profitable Runner Bean. I have a fancy for the Painted Lady, but if you know a better kind be good enough to name it. I have often sown the Runners in boxes and planted them out, but if you consider that the seed should be sown where the plants are to grow, please say so?"

[As you have a predilection for Painted Lady you could not do better than have Painted Lady Improved, an exhibition variety, with large, handsome pods, much finer than the ordinary variety. We prefer, however, Mammoth Scarlet and Giant White, both of which are first-rate in size and form of pods, excellent croppers, and of high-class quality. We prefer to sow where the plants are to grow, well manuring and deeply stirring the ground. Your plan of sowing in boxes and planting out is a good one, especially for securing early produce.]

MISTLETOE (J. J.).—"I have some seeds of the common Mistletoe, and I should be glad if you would kindly inform me, through the columns of the *Journal of Horticulture*, the best time to insert the seed. I have an Apple orchard here, and would like to try and grow same. Also please say if there is any variety of Apple that the Mistletoe has been known to succeed best on."

[Mr. Charles Van Geert gives in the *Journal of Horticulture*, January 31, 1889, page 83, the rules and particulars of his process of Mistletoe propagation, which may be summarised as follows: 1. Get seeds that are thoroughly fertilised; 2. Select good-shaped white berries, in order to have them of perfect maturity; 3. Preserve them during the winter in a cool place, covered with a little soil not too dry; 4. Select some young, healthy, and vigorous Hawthorn plants with stems as thick as the little finger, well established, and planted in a sheltered situation; 5. Look out for fine growing weather, when the sap commences rising in spring; 6. Fix each seed, with its own natural glue, on the clean bark of the main stem, exactly under a lateral branch, in order that the rain may not wash it down and that the birds may not easily find it out. This procedure we have practised in modified form on a great variety of trees, the seeds being placed on a smooth part of the branches and on the under side, chiefly in spring, selecting branches from 3in to 2in or 3in or more in diameter, the only point of consequence being that of smoothness and healthy condition. No incision should be made. All that is necessary is to squeeze the seed from the berry on to the bark, to which it will adhere by its own natural glue, and vegetate in

due course. The germination of Mistletoe seed is very interesting, and shown in the illustrations figs. 1-4. It grows on almost every kind of Apple. We haven't observed its liking for any particular variety, though it seems to flourish, or, at least, is most abundant, on the older than the newer varieties; but this may be a matter of natural distribution which takes place by birds of the thrush family during the winter, usually by or before February.]

FERNS GROWING WITHIN A BOTTLE (R. J.).—Judging from a few cases we have heard of in times past, the occurrence is not so uncommon as you believe it to be. We here reproduce an illustration that shows a similar peculiarity of position to that of which you write. This was noticed in a garden near London, where damaged soda-water bottles were used to edge the paths. In the majority of the bottles young Ferns appeared soon after the former were placed in the ground. They continued to grow until in

some cases they formed a dense, congested mass of vegetation. Of four or five hundred bottles employed, nearly two-thirds contained Ferns. The fronds remain green during the greater part of the year, and then die, giving place to young ones in the following spring. The chief species observed were the Lady Fern (*Athyrium Filix-fœmina*), the Oak Fern, and a few others. Strange to say, however, the only Fern in the open garden to begin with, was the Hart's-tongue (*Scolopendrium vulgare*).



FERN IN A BOTTLE.

DISINFECTING POTS FOR TOMATOES (Germicide).—"I am grateful for your prompt and courteous advice, as given in *Journal* of 12th inst., but should be very glad of your further kind assistance through its columns. Pots in which Tomatoes fruited last year, but which were in many cases more or less diseased, have to be disinfected. We propose to dip them in the iron sulphate and vitriol mixture which you recommended. Do you think ten minutes complete immersion sufficient for disinfection? Secondly, if in cleaning brickwork, &c., with the iron sulphate mixture a certain amount

mingles with the soil in which plants will have to grow, would not a dressing of freshly-slacked lime, applied a month before planting time, neutralise the iron sulphate by forming gypsum, and thus prevent ill-effects to plants? Thirdly, it is sometimes advised that the seeds of Cucumbers, &c., &c., should be soaked in a solution of copper in order to destroy disease germs which may adhere to them; would the copper ammoniate mixture which you prescribe for spraying foliage be likely to prove a safe and effective liquid in which to soak the seeds? Trusting that you will forgive these inquiries."

[1. There is no objection to dip the pots in the iron sulphate and vitriol mixture, the ten minutes immersion you propose being quite sufficient for disinfection. It would be advisable to afterwards scald the pots and wash them clean inside and outside. 2. In cleansing the brickwork, &c., with the iron sulphate mixture, no harm will accrue from the small quantity that is splashed on the soil, but would rather tend to be of service as a fungicide, and even as manure. A dressing of air-slaked lime applied a month before planting would have a neutralising effect. 3. The seeds of Cucumbers may be soaked in a solution of sulphate of copper: 1oz to 1½ gals of water suffice to damp them with the solution, or the ammoniacal carbonate of copper solution may be used, and certainly it is the less hurtful to germination. The latter we advise, merely damping the seed with the ammoniacal carbonate of copper solution, properly prepared as follows: Water 9 gals, aqua ammonia (26deg strength) 12 fluid oz, copper carbonate 1oz. Make the copper carbonate into a thin paste with water, then add the ammonia water slowly, when a clear, deep blue solution is obtained, which does not become cloudy when diluted to 9 gals.]

LECTURESHIPS (W. P. W. V.).—We will reply by private letter.

SNAILS IN CUCUMBER HOUSE (Snail).—Speedily decomposed and unidentified.

CAMELLIAS (F. L.).—Want of care in culture might be suggested; will reply more fully next week.

Is there anything better for a "screen" among deciduous trees than Larch, or a faster grower?

[Larch is the quickest growing coniferous tree for a "screen," but Corsican Pine keeps pace with it, and is desirable for its evergreen nature. The fastest growing deciduous tree is Huntingdon Elm, even vying with Canadian Poplar laterally, though this, as regards upward growth, is the quicker. Both Huntingdon Elm and Canadian Poplar bear cutting well.]

Is there any better or faster growing Conifer for a "screen" than Thuia Lobbi?—(Shade.)

[Thuia gigantea (Lobbi) is the best and fastest growing Conifer for a division hedge or screen, it bearing cutting well, or naturally forms a dense, tapering upwards from a broad base, verdant wall. For quick work the plants are placed about a yard apart, 2ft to 3ft trees being employed, or 4ft to 5ft high trees are placed 6ft to 7ft 6in apart, double rows being sometimes planted a yard between, and the trees planted so-called quincunx or opposite vacancy order, thus forming a block at once. An evergreen screen with immediate effect is often formed of American Arbor Vitæ (Thuia occidentalis), 6ft to 8ft trees being planted so closely in line as to touch.]

BLINDING THE VIEW (H. M.).—Can you suggest how best to blind newly-erected tenements from one's private view?

[The best way to shut out newly-erected houses is to plant Lombardy Poplars of 10ft to 12ft height in double row about 7ft 6in distance apart in row, and half the distance between rows, placing quincunx. These trees occupy a relatively small ground area, and on that account are often preferred to Canadian Poplar, which, though much quicker growing, has a base only little less than the height. For hiding or covering a wall Irish Ivy (Hedera Helix canariensis) is the best evergreen, and of deciduous subjects, Ampelopsis hederacea (Virginian Creeper) or A. Veitchii. Vitea Coignetia has a very brilliant foliage in autumn, and amongst deciduous climbers has no equal for wreathing verandahs, old buildings, archways, &c.]

NAMES OF PLANTS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (A. B.).—1, Hibbertia dentata, a very useful climber, and beautiful when seen in a good state. (L. F.).—1, Kadsura sinensis variegata, much like Eurya latifolia variegata; 2, Hedera Helix aurea spectabile; 3, H. H. dentata; 4, H. H. grandifolia. (J. T.).—Exaeum zeylanicum maeranthum. (N. N.).—1, Shoots of Cornus (alba) stolonifera; 2, The Cedrus Libani. (E. Platt).—Next week.

Covent Garden Market.—January 8th.

Average Wholesale Prices.—Plants in Pots.

			s. d.	s. d.				s. d.	s. d.		
Aralias, doz.	5	0 to 12	0	Ferns, var, doz. ...	...	4	0 to 18	0	
Araucaria, doz.	12	0	30	0	Ferns, small, 100... ..	10	0	16	0
Aspidistra, doz.	18	0	36	0	Ficus elastica, doz. ...	9	0	12	0
Chrysanthemums, doz.	0	0	0	0	Foliage plants, var, each	1	0	5	0
Crotons, doz.	18	0	30	0	Lycopodiums, doz. ...	3	0	0	0
Cyclamen, doz.	10	0	12	0	Marguerite Daisy, doz.	8	0	10	0
Dracæna, var., doz.	12	0	30	0	Myrtles, doz. ...	6	0	9	0
Dracæna, viridis, doz.	9	0	18	0	Palms, in var., doz. ...	15	0	30	0
Eriæa gracilis, doz.	10	0	12	0	„ specimens ...	21	0	63	0
„ caffra, doz.	15	0	18	0	Primulas ...	3	0	4	0
„ hyemalis	9	0	15	0	Shrubs, in pots ...	4	0	6	0
„ „ alba...	12	0	18	0	Solanums ...	8	0	12	0

Average Wholesale Prices.—Cut Flowers

	s.	d.	s.	d.		s.	d.	s.			
Arums, doz.	6	0	to	8	0	Lilium l. rubrum ...	2	0	to	2	6
Asparagus, Fern, bnch.	1	0		2	0	Lilium longiflorum ...	5	0		8	0
Bouvardia, white,						Lily of the Valley, 12					
doz. bunches... ..	6	0		8	0	bnchs	12	0		24	0
Bouvardia, coloured,						Maidenhair Fern, doz.					
doz. bunches... ..	6	0		8	0	bnchs.	6	0		8	0
Camellias, white... ..	3	6		0	0	Marguerites, white,					
Carnations, 12 blooms	1	3		1	9	doz. bnchs.	2	0		4	0
Cattleyas, doz.	8	0		12	0	„ yellow, doz. bnchs.	0	6		1	0
Chrysanthemums,						Odontoglossums	5	0		6	0
specimen blooms,						Primula, double white,					
doz.	1	0		4	0	doz. bunches... ..	6	0		8	0
„ white, doz. bnchs.	4	0		8	0	Roses, Niphetos, white,					
„ coloured, doz. bnchs	3	0		8	0	doz.	1	0		3	0
Cypripediums, doz. ...	3	0		4	0	„ pink, doz.	4	0		6	0
Eucharis, doz.	6	0		8	0	„ yellow, doz. (Perles)	2	0		3	0
Gardenias, doz.	6	0		0	0	„ red, doz.	0	0		0	0
Geranium, scarlet, doz.						Smilax, bnch	2	6		3	0
bnchs.	9	0		12	0	Stephanotis, doz. ...	0	0		0	0
Hyacinth, Roman,						Tuberose, gross	6	0		0	0
doz. bunches... ..	8	0		9	0	Violets, single, doz ...	1	6		2	6
Lilium lanceifolium alb.	2	0		2	6	„ double, doz.	3	0		4	0

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, cooking, bush.	6 0	to 8 0	Lemons, Mesena, case	12 0	to 16 0
„ dessert	8 0	20 0	Oranges, per case ...	4 0	16 0
Bananas	8	12 0	Pears, English, ½ sieve	0 0	0 0
Figs, green, doz. ...	0 0	0 0	Pears, French, erate ...	9 0	12 0
Grapes, Alieante, lb. ...	1 0	1 6	Pines, St. Michael's, ...		
„ Colman	1 0	1 6	each	2 6	0
„ Hamburgh	0 0	0 0	Plums, ½ sieve	0 0	0 0
„ Muscat	2 6	3 6	Walnuts, ½ sieve	0 0	0 0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	2 0	to 3 0	Leeks, bunch	0 1½	to 0 2
„ Jerusalem, sieve	1 6	0 0	Lettuce, Cabbage, doz	1 0	1 3
Batavia, doz.	2 0	0 0	Mushrooms, forced, lb.	0 8	0 9
Beans, French, per lb.	0 8	0 9	Mustard & Cress, pint.	0 2	0 0
Beet, red, doz.	0 6	0 0	Parsley, doz. bnchs ...	2 0	3 0
Brussels Sprouts, ½ sieve	2 0	3 0	Potatoes, English, cwt.	4 0	5 0
Cabbages, tally	1 6	3 0	Radishes, doz.	1 6	0 0
Carrots, doz. bnch. ...	2 0	2 6	Seakale	1 0	1 3
Cauliflower, doz. ...	3 0	0 0	Shallots, lb.	0 2	0 3
Corn Salad, strike ...	1 0	1 3	Spinach, bush.	2 0	3 0
Cucumbers, doz.	6 0	0 0	Tomatoes, Canary con-		
Endive, doz.	1 0	1 3	signment	4 0	5 0
Herbs, bunch	0 2	0 0	Turnips, doz. bnch. ...	2 0	3 0
Horseradish, bunch ...	1 6	0 0	Watercress, doz.	0 6	0 8



Working Days.

When icicles hang by the wall,
And Dick the shepherd blows his nails,
And Tom bears logs into the hall,
And milk comes frozen home in pails,
When blood is nipped and ways be foul.

We like warmth. No summer day is too hot for our comfort—we revel in the sunshine—we shrink into ourselves during a spell of frosty weather. Oh, yes, how exhilarating is the bright frosty morning! It may be—but not to us. We try to rejoice and look glad, but our extremities are too pinched, our blood won't circulate, and we are very miserable. If our sufferings in the cold weather are so painful what must be the effect on those who are ill-clad or insufficiently clad and not so comfortably fed as ourselves? It is all very well to plead usage, but we don't quite believe working men and working women are so thoroughly inured to hardship as to be perfectly above feeling any inconvenience when the weather is unkindly. Our hearts have a soft spot where these poor folk are concerned, and it is during the winter that we think the farm worker's lot is not so easy or pleasant as that of the town artisan.

There is first the question of the early start. Those who have horses under their care must be up betimes. A horse should not be hurried over his breakfast, and a good man thinks more of the comfort of his horse than of his own. Darkness is such a drawback to quick movements it is impossible not to fumble about when the only light is that of a stable-lamp; and then outside in the cart-sheds, the partial light only makes confusion more confounded. Dark and damp the start to work must often be; ways are foul, especially field ways. There seem to be few clean jobs in winter. Even though the teams are on the road, the waggoner must be at his horses' head in the thick of the mire. Have our readers ever plodded alongside of a waggon, say, for eight or nine miles, to deliver Corn or Potatoes to the nearest station? There is plenty of time for contemplation during that long walk, plenty of time in all and any variety of weather, and there is poor chance of a comfortable meal till home is reached, and the horses made snug and warm. There are compensations. Life on the road admits of possibilities, and the station is a more or less lively place. The return journey probably is not a quick one, as there is, in all likelihood, a load of cake to bring back; then it is trudge, trudge,

through falling day with tired horses and stiffening limbs. There is manure to be got out of the yards; and we have heard experienced men say that is far harder work than any entailed in the harvest time. Only so much can be lifted at once—it is solid and heavy—it has to be put into the cart by forkful and be removed the same way. There has been no labour-saving appliance discovered for this operation yet. As a set-off, the days are short, and it is well when the work is of such a kind. This applies, of course, more especially to open yards. Where the yards are covered in, the manure, though solid, is not so heavy, but the closeness of the atmosphere is against the worker.

Backwards and forwards over the yards goes the cowman—this is his busy time—stock on all sides of him (it is a mistake to overwork a good man—a bit of timely help pays). Turnips here, pulp there, cake in this trough, water everywhere. There is often a question, occasioning soreness between this man and his master. Bedding straw is scarce. Master urges economy; man hangs for well-filled stalls and boxes. How comfortable stock looks among the bright yellow straw. No wonder the man grudges to pinch in this direction.

If the cowman's life is a hardish one in bad weather, what of the Turnip shepherd? There's no shirking there. Snow or rain, biting hail, freezing wind, it is all the same, the roots must be sliced and the trough filled. Often, indeed, the field is far from the homestead; too far to allow of a return for a bit of dinner. A thoughtful master will provide a hut; useful, inasmuch as it gives a bit of shelter and comfort to the man and his boy for their mid-day meal, and useful also as a repository for a bag of corn or cake, a few simple remedies, and the appliances for the dressing of a sheep supposing fatal symptoms show themselves. N.B.—A shepherd who can dress a carcase well is worth a good deal to any master. Many sheep are affected with brain ailments, which do not affect the quality of the meat in the least, and among the labourers and other villagers a ready market may be found for such mutton provided it is well and neatly dressed.

With the Turnip shepherd his work is over at set of sun, but not so with the work of the lambing shepherd; he has often to face the fiercest weather that blows, and this, too, during the long dark night; up and about must he be, ever on the alert, with cases that call for all his skill, and which are a great test of his powers of discrimination. Often it is that hesitation would mean serious loss. He must depend upon himself, and hold himself responsible for all that happens. Of course, in a measure, this applies to all those men on a farm who have the charge of live stock, and it is really marvellous to us, on calm reflection, to think how well they manage and how seldom make a mistake. How often, night after night, will a careful man keep his weary vigil for fear some animal under his care may need his services, and there is no compensating rest during the day.

All this hard, cold work of which we have spoken does not seem to have much ill-effect, for how seldom do we find farm workers laid aside, and to what great ages some of them attain.

Rheumatism is the chief ill, and bad enough it is. And it is difficult to know or see how it can be warded off. Fortunately during the worst days of winter there are many jobs on and about the homestead that call for attention. The stock-yard may be much improved by the use of a scraper, either horse or hand. Of course there is not such a thing on the farm, but probably there is, or ought to be, a parish one, which can be borrowed for the purpose. There is many a nook or dark corner which is the better for a turn-out—heaps of waste wood to be cut up into convenient fuel, hurdles to be repaired, gateways filled in with chalk or better material, Potatoes to sort, straw and roots to pulp, and other food to prepare. Fowl-houses as a rule get far too little attention, and the same applies to many other buildings, buildings that appear to be adorned with the cobwebs of ages, all calculated to hold not only flies, but any errant bacillus that may happen to be floating round. We do believe in the whitewash brush—light and sweetness are the greatest possible purifiers.

If there should be such a thing on the premises as a liquid-manure tank it is less offensive when opened in cool weather. Personally we don't much like them; there is always a difficulty in getting men to empty them, and there is always a risk of leakage—cement will crack at times, and the water supply may be ominously near. We knew a case in

point where the father fell a victim to typhus, and three out of four children to diphtheria, traceable to no other source than a leaking cesspool on a model homestead. On farms where there are big dykes, it is almost a certainty that on the side of the dyke will be found what really amounts to a bank, the accumulations of the yearly clean-out. This makes fine dressing for the land, and a slack time in winter is the farmer's opportunity for removing this soil and spreading it on the land. It is wonderful how many cartloads will come out of a very short piece of bank.

A fine heap for future use may be built up out of road scrapings, and of the turf which in some parishes is ploughed up from the sides of the road. As a rule the highway surveyor is only too glad to get rid of what, if left about, is sure to become a nuisance. Here, again, it is wonderful to find how road scrapings accumulate. On the land the value is great; at the side of the road they get in the way of proper drainage, and gradually encroach on the highway.

Young stock will soon be appearing, and it is a good plan to have the lambing-pen ready in time, or well before time. Nothing makes better shelter than hurdles well thatched with straw, and they are not done in no time. The calf-house, too, should come in for a share of attention; we hold it an established fact that dark, dirty hovels for young calves are a fruitful source of disease, especially that fatal complaint known as scour. It is well, too, to give an eye to all the fences, and execute necessary repairs. There may be some strong old hedges that have to come down, that are getting weak at the bottom, affording convenient creep-holes for sheep. The art of laying a hedge appears to be dying out, and we are glad to see that in some districts hedging classes are being held under the auspices of the County Council technical scheme. Hedges are the natural fences of England, but they won't maintain themselves.

We are writing on the threshold of a new year—we know not what may be before us. The farmer's life is one long course of contention with adverse conditions, but it is a natural life, and one full of pleasures of a simple kind—of a kind that appear very trivial to the city man. We would wish our friends, for so we call our patient readers, a happy and prosperous New Year, with good prices and bumper crops.

Work on the Home Farm.

We seem to be getting rain when fine weather with frost would suit us better. Three very heavy downfalls at very short intervals have converted low-lying land into a succession of lakes. Yesterday we counted eleven fields more or less submerged which are not in a position usually liable to flood. We were beaten off the land before, but could make headway with manure leading. Now we can get along the roads all right, but taking a heavy load of muck through a swampy gateway, and to the hill, even if it be only a few yards, is not worth distressing the horses with. As we are not allowed to make dunghills on the roadside, nowadays, the horses must have a rest.

There has been a lull in the Potato sorting, and the men have returned to the fencing work, which is now somewhat in arrears. Some rough, big hedges are being taken down and laid, so there is work for one or two horses in carting spare thorns to other weak fences likely to require them for filling up gaps, &c.

When we shall get on the land again is very uncertain, and farmers will be well advised to exercise all the patience they are possessed of. Great mischief, entailing much unnecessary work in spring or summer, may follow ploughing recklessly at the present time. Even though we recommend keeping the Turnip folds closely ploughed up, as a rule, we must have patience now to let the water soak well away from the surface. For every farm purpose, except in some cases preparation for Wheat, it is essential to avoid touching the soil when it is waterlogged.

The Turnip fold is a quagmire, and all the sheep are on grass. It will save Turnips; but we should have preferred to keep the bite of old fog for later use. Where there is a considerable number of breeding ewes, every bite of grass is precious, particularly if Mangold is largely used, for a due proportion of dry old fog, eaten with these succulent sugary roots, is essential to the production of a cheap whilst perfect diet.

As usual, after a dry summer and autumn, with springs almost dry, a sudden change in these matters has found some of us unprepared for flood water. It is our own fault if we are caught napping. Yesterday we saw a waterfall, having heard it first at 100yds distance, pouring in volume through a fence from a Wheat field into a piece of plough. The proper fall had been neglected, and to relieve his Wheat of the water the tenant cut a trench and flooded a field in preparation for roots. It will require much labour, as well as frost, to make a Turnip mould where water has been.

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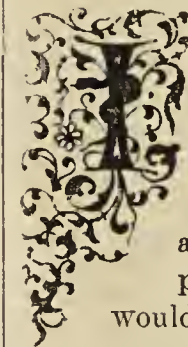


Journal of Horticulture.

THURSDAY, JANUARY 16, 1902.

Old-time Gardening.

(Continued from page 528, last volume.)



N order to obtain a clearer comprehension of the very early type of garden, it will be necessary to add some details to what was stated in the last article. Gardens were not large,—perhaps half an acre in extent would be over the average; an acre was certainly a large one. But where the garden was situated inside the moat, as it very frequently was, an orchard outside was supplementary to the garden proper.

Much the same state of matters existed in the case of religious houses. The gardens of the wealthy citizen or of the Franklin was necessarily of a different type, and contained in one enclosure the garden of pleasure, the garden of herbs, fruit trees, and even sometimes forest trees and shrubs. Moreover, the garden at the period under review was the only place where privacy could be secured. A very superficial study of the manners of the people, when all ranks lived in common, ate at the same table, and sat in the same hall, proves this to be the case. This is one reason why gardens were enclosed with so much care, at a time when the fields, as a rule, were open to intruders of all kind. The fence, too, was most needful to prevent the entrance of deer and cattle, and of thieves.

The wealthy enclosed their gardens with high walls of stone, sometimes painted; and we also read of them adorned with pictures of an allegorical nature. A not uncommon kind of fence was constructed of close pales, inside of which some close-growing shrub was planted, to hide the fence from view. A less expensive fence was composed of turf, outside of which it was customary to dig a deep ditch. Other fences were of living

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vegetation, and also of "dead" thorn which, when properly interlaced and with the usual ditch outside, formed a barrier impenetrable alike to man and to beast.

A Garden Long Ago.

The early type of garden appears to have been invariably square, and it was spaced out in narrow oblong beds, with little paths between. The necessity for this arrangement will be obvious when we remember that crops were not sown in lines, but broadcast all over the ground, and that hand weeding was on that account the only practicable method of cleaning the ground, the workman standing in the alley and never among the crops. The width of the beds was from 4ft to 6ft, never more. The soil, by means of boards, was kept from falling into the narrow alleys which enclosed each little plot. But the larger walks and alleys appear to have been bordered with trelliswork rising to a height of 2½ft and upwards, and flower beds were protected in the same manner; but even in Chaucer's time these bare trellises had begun to be covered with vegetation.

The paths, or, as they are nearly always called, the alleys, were covered with a coating of sand, which was often renewed, or perhaps, as we should say now, freshened up. Fountains have already been referred to, and also "benches," which we must conclude were an important part of the garden furniture. They were necessary to rest on, or to sit and enjoy the sweet scents which were a feature of all old-time gardens, largely furnished as they were with aromatic herbs. These "benches" were invariably covered with turves of very short grass, sometimes laid on a foundation of brick, which were placed against the wall of the garden. "Benches" were also made in the "Herbere" or "Erbere," which in some shape or form appears to have been indispensable. They were no doubt provided largely as a place of retirement or of privacy, where friends met and took counsel together, or as a trysting place for lovers. Later they were debased to immoral purposes, particularly in towns. Not always composed of the same material, Sycamore, used perhaps as a framing, and Eglantine are named in one instance, and Hawthorn and Juniper were common. But all had this in common, that the living walls were so thick, so closely interlaced, and so closely trimmed, that no one outside could see what was transacting within. They were also roofed over with some suitable fast-growing vegetation, no doubt framed on strong bent poles, or "wandis long and small," or "grene wythes ywrythen wonderlye." The floor, if it may be so called, was covered with vegetation, either of close turf or with flowers, "ful shyre and schene," which, with the long seat of turf, required often renewing. An old writer talks of sleeping a summer's night on a "bench" of turf in just such an herber, and centuries later Milton's genius found no more delightful couch for the first pair than one of flowers in a natural arbour in Paradise.

The "Mount"; The Flowers; The Fruit.

Another feature of the early garden not, however, mentioned by Chaucer, was the Mount raised against the garden wall to enable the proprietor and his family or friends to see what was transacting in the world outside. Like the bench of turf, it was at this early period quite a simple affair, though afterwards it assumed large proportions, and sometimes curious forms. If we accept the garden as the only place where the Englishman and his wife could escape publicity, it gives us a key to the quietness and general simplicity of its arrangements. Not till long after this period was there any attempt to make the garden gay.

The garden flowers we read of are all sweet—the Rose, the White Lily, Iris Florentina, Rosemary, Mints, Fennell, Hyssop, Lavender, Marjoram, Apple-blossom, Sweet Bay, and Sweet Briar were favourites.

Fruit trees were not pruned to dwarfs, but were allowed to assume the proportions that Nature had imposed. Thus the "Pine" in the garden of January was a great tree, and the "homly" trees of the author of "The Romaunt of the Rose"—Quinces, Apples, Plums, Medlars, Pears, Chestnuts, Cherries, &c.—as cultivated in gardens, were trees indeed, and were "ranged" towards the outer portions as a rule. Cherries and Apples appear to have been in particular abundant. Langland mentions as common food for the people "baken Apples" and "ripe Cherries mange." Chaucer twice notes the Apple as being preserved. "A rotten Apple," he says, "is better out of 'hord,'" and as

something deliciously sweet he mentions a "hoord of Apples laid in hay or heth." Medlars, again, he tells us, "are not good till rotted in muck or straw." The Pomewater Apple dates from this period, and the Bitter-Sweet, mentioned by Gower and by Chaucer, is supposed to have been an Apple, though the reason for thinking so is not very clear. Cupressus sempervirens, too, was in cultivation at this date. Moreover, the "taste" for sweet flowers, too, was already developed, and a pretty way of decorating the toffee of that day consisted in laying petals of Violets, Primroses, or Gilliflowers on the cakes of that delectable composition while yet hot. It is necessary to point out the marked liking there was, as there has continued to be, for Peas before leaving this part of the subject, because a suspicion has been hazarded that they were unknown. But hot peascods were sold in Cheapside, and formed one of the dishes at the marriage feast of Henry IV., so very widely was the taste for this vegetable diffused.

The Old-time Gardener.

Of the person who controlled the larger class of gardens there is material enough to show him to have been a not unintelligent member of the community. From a very early date it formed part of his duty to extract from his garden produce for sale, in addition to supplying the wants of his employers, and perhaps, too, he was the earliest type of nurseryman. So zealous was he in pursuit of gain, and so careless of the feelings of the London citizen, that a Lord Mayor endeavoured to suppress him as a noisy nuisance, but not quite successfully. Liquorice, Saffron, and Verjuice were notable articles of sale. His more private duties consisted in raising stocks for his fruit trees and grafting the same. He had also to cultivate Madder, and a great variety of medicinal herbs. The management of turf was very essential, and the formation and upkeep of trim arbours, pleached hedges, and clipped shrubs required an experienced eye and well-trained hand. Honey was of more importance then than now, and the care of bees formed a very important part of his duties. Not improbably, too, though this is doubtful, he was a floral decorator, and composed garlands.

His remuneration varied according to time and place. At the end of the twelfth century he was satisfied with fourteen loaves of bread annually and two acres of land to crop. A century later money was apparently more abundant, for the Earl of Lincoln disbursed on behalf of his gardener for the year, 52s. 6d., and gave him a robe besides. In Chaucer's day the wage had increased, and boots, tunic, and gloves formed part of his remuneration. Labourers, who were hired by the day as required, each received 2d. and 2½d. a day. The smaller gardens would no doubt be managed by the mistress of the household, and much of the labour would be overtaken by her maids.—B.

Centenary of the Royal Horticultural Society.

Our nearness to the annual general meeting of the "Royal" recalls again the propositions that have been made as to how the Centenary of the Society will be celebrated in 1904. The original proposition was that a new garden take the place of Chiswick, which is now worn out. The Fellows empowered the Council to set about finding a suitable site for a new garden. Unfortunately, the selection made in the first instance was such as caused surprise at the wisdom of the Council; and when a second site had been wearily found, this, too, did not meet with approval.

Between times, a faction had grown up which had in view a Horticultural Hall, by the erection of which in a prominent position and central part of London they proposed to celebrate the Centenary. At a special general meeting held last spring, the Hall Party severely criticised the new garden scheme, and formulated an amendment in favour of a Horticultural Hall for the holding of ordinary exhibition, lectures, and meetings. They won the day, and there the matter to all outward appearance ended, and has not been broached till the present time. But during the past months a self-appointed committee, with Baron Schröder at its head, and other influential Fellows with

him, have been pursuing inquiries as to where a suitable site for a Hall might be got, its cost, and other necessary information. Full particulars will most likely be given at the annual general meeting next month, if not before then through the medium of the Press.

A large and substantial Hall belonging to the Royal Horticultural Society is necessary—that is the great point—but a new garden can be got at a more convenient period. Chiswick lease has many years to run yet, and things could proceed there as they have been doing for years past. When the Society had recuperated its resources after erecting a Hall, all its strength of purpose and purse could be directed toward the furnishing of a garden on a magnificent scale, where trials of the highest importance could be undertaken and carried on over an extended period of years. (Woburn; Rothamstead.) The question of the greatest importance for decision now would appear to be, What will the Horticultural Hall cost (all told)? Some persons have hinted at obtaining a Hall site in the Royal Botanic Society's garden at Regent's Park; a possible amalgamation of the societies has even been suggested. Other persons ask whether a piece of ground could not be secured in or about St. James' or the Green Park, by soliciting the proper authorities.

The Apricot and its Culture.

(Concluded from page 535, December 12, 1901.)

Among our ordinarily cultivated hardy fruits there is none more precarious in a general way than the Apricot, or less under the control of the gardener, a prolific factor being the liability of certain varieties, notably the Moorpark section, mysteriously to lose their branches, but which has been assigned to more causes than one. Indiscreet pruning is conjectured as one of the principal causes in interfering with the economy of the tree, and induces "gumming" and "cankering." Anti-climatic conditions, however, has been ascribed as a fertile cause, and is not altogether an irrational idea considering the natural habitat of the Apricot, in Armenia, where it is said to attain the dimensions of a fair-sized timber tree. Cold streams are constantly descending from the snow-capped summits of that country's mountains, cooling in their descent the soil and vegetation. These factors thus afford something essentially suitable to the well-being of the Apricot. Our geographical position precludes the imitation of the highly rarefied and clear air of that and other regions of Asia Minor—the natural habitats of this fruit.

Soil.

Soil, too, is a great factor in the successful culture of the Apricot. A holding, calcareous loam (essential for stone fruits) being a desideratum, and which, if not at command, must either be procured from elsewhere, or the natural soil supplied with a sufficiency of limy or calcareous matter. In substantiation of this, I know where long-lived Apricot trees, including several formerly under my own management, maintained their existence and almost unvarying successful fruiting condition, owing to the coherent calcareous nature of the natural soil, and suitably drained to avoid stagnant moisture. Large and otherwise flourishing Apricot trees have been known hardly ever to bear a good crop of fruit owing to the sandy and too dry a condition of the soil, to afford an insufficiency of nourishment, either to setting the embryo fruit or the stoning process. It would appear to be somewhat of an anomaly why Apricots should suffer under the same conditions that other trees, such as the Peach, Nectarine, and Fig, grow healthily. Probably the chief cause may be ascribed to the fact that the Apricot possesses a comparatively large amount of foliage to support, causing a greater demand on the roots than they can supply. This pertains more particularly to trees growing in a light dry soil, so that the foliage imbibes all the water it can secure, and the fruit thereby falls prematurely from lack of nourishment.

Old Specimen Trees.

In exemplification of my contention, or advocacy, of a heavy medium for the successful cultivation of the Apricot, I may remark that for a period of upwards of twenty years I had the management of several fine old trees in a garden

containing an underlying stratum of stiff lias clay on a sharp slope, thus facilitating drainage of excessive rain or other natural flow of water. The site had a south aspect. The trees occupied a position against the upper south walls, the varieties being Moorpark and the Peach-Apricot. With the aid of protection afforded by frigi domo curtains during the flowering period, good crops were almost invariably secured; while on more than one occasion fruit of the Peach variety obtained first prize at the Royal Horticultural Society's exhibitions. The roots of the trees were allowed to ramify year after year without being interfered with, and any extraneous food was probably supplied by the annual manurings of the borders for the benefit of vegetables, and occasionally Strawberries.

There was also a tree each of the Breda and Orange varieties, grown for preserving purposes. Both usually bore very good crops of fruit. If the trees are still alive (it is about twenty years since I last saw them) they must be hard upon their centenary. One in particular was a fine specimen—about 30ft high, growing against a stone built stable wall, with an eastern aspect. The tree was partly shaded by high Elms, growing in the grounds, outside of the lower end of the kitchen and fruit garden. The roots of the tree had evidently penetrated deeply into the stiff clay, as the foliage, especially during extra wet seasons, assumed a slightly unhealthy hue. It was the largest Apricot tree I remember ever to have seen or heard of in this country. A significant circumstance was that rarely the Apricot trees in the garden in question lost branches, or were trained fan-shape from close to the ground. This raised the question regarding the most suitable stock for the Apricot, and of which there ever has been a considerable amount of physiological speculation. Some authorities claim that the "gumming" and decay of the branches, specially inherent in certain varieties, such as the Moorpark, for instance, is attributable to influence of the stock employed for grafting or budding upon. Doubtless there exists a considerable modicum of truth in the matter. It has been proved that the stock upon which some of the sorts are budded has a great influence upon the longevity of the trees.

Stocks.

The stock generally adopted is that of certain kinds of the Plum, such as the St. Julien, Damascus, or Myrobalan. What has been deemed a more natural and suitable stock is that from the seed of the wild Apricot, or what has been found to be even more satisfactory in the native countries, of the Apricot, are the stocks procured from the seed of the finest varieties. The Plum stock is especially suitable as a standard by reason of its vigorous growth. It has been reported, nevertheless, that in some districts in France that the Plum stock is not conducive to longevity of the Apricot; that the average duration of the Apricot grafted on it does not exceed four years. The scion grows at first very vigorously—then dies. The stock continues to flourish. As previously mentioned, no doubt the nature of the soil is a chief factor in influencing the well-being of the Apricot, and probably to a greater extent than the atmosphere. But we have greater facilities for adopting the former than for controlling the latter. Apropos of the nature of the soil, I am reminded of

Oxfordshire,

where a large area of the county's geological formation is, I believe, of a calcareous nature, and eminently suited to the Apricot, as evidenced by the fact that in no other part of the country was the Apricot cultivated to so great an extent. In the villages nearly every cottage was furnished with a tree, whilst also being extensively grown in the gardens of the wealthy proprietor. For instance, I am reminded of the fine old trees with their abundant crops of fine fruit in the gardens at Blenheim Palace, also of those in the gardens of the inhabitants of Woodstock. My first acquaintance with Woodstock was in the early fifties as a budding "Knight of the Spade," in company with my father, when on a visit to Mr. Turnbull, the celebrated gardener and grower of Pineapples, hybridist, and cultivator of Cape Heaths at Blenheim. The crops of Apricots produced were notorious. My next visit was about nine years ago; but lo! what a change had come o'er the scene, as only the remnants of the fine old fan-shaped Apricots were to be seen, these having by degrees died out. But Mr. Whellan was replacing them with young trees—evidently old age was chiefly responsible for the decay of the veterans.—W. GARDINER, Birmingham.



Epidendrum Lindleyanum.

Some years ago this beautiful species was known under the name *Barkeria Lindleyana*, and may be still, in some places. Since greater discoveries have been made in the various characteristics of the *Epidendrums* this, with others, has been found to coincide closely enough to the required resembles in its parts with the older *Epidendrums*, and, consequently, has been included with them. As our illustration shows, it is a graceful and beautiful flowering Orchid. The erect stems are slender, and from 9in to 15in high. The flowers are rose-purple, a rich and very pleasing shade; and are borne on long terminal racemes. The lip, we should add, is purple-tipped, and has a white centre. The species is from Mexico, and flowers in autumn.

The plant succeeds best on a block, though it may be grown in a pot or shallow pan, but under the former system the most satisfactory results in regard to the production of flowers are attained. It enjoys free ventilation, abundance of water during growth, and a well-marked season of rest, when very little water is needed, are the chief points to which attention should be directed.

The Week's Cultural Notes.

Everyone admires the *Phalænopsids* or Moth Orchids, the beauty of the individual flowers and the grace of the racemes being alike unquestioned, but unfortunately by no means everyone manages to cultivate them well. Just now there will be many specimens showing a yellow tinge on the leaves; some may have dropped, and others will appear so loose at the leaf axils that they are sure to go a little later on in the season, when growth again becomes active.

The inexperienced cultivator in some cases may call in the local expert in Orchids, or ask someone else, who at once advises repotting. To those about to repot or rebasket *Phalænopsis* now my advice is an emphatic "Don't." The injury to the foliage probably occurred during the past autumn or late summer, and no repotting can now put it right. It will only make matters worse, so leave them alone, and if a leaf or two gives way look upon the decreased size of the plants as philosophically as possible, and endeavour to do better next year. The roots just now are very inactive, consequently, if disturbed they would be long before they took to the new layers of compost; keep them on the dry side, and they will begin to look for moisture when the plants most need it. Then is the time to give it to them, and also to repot when the ends of the roots are green and active.

Many of the *Cypripediums*, on the other hand, may with advantage be repotted now or very soon. The roots of these are not so delicate, and are, moreover, less likely to be injured by disturbance. In repotting a healthy *Cypripedium* one need never be afraid to pull the roots about a little. The young and vigorous ones will easily get over this, while the old and decayed ones need not be considered. The latter, in fact, should be cut away with a sharp knife, as they are useless to the plant, and by their decay are apt to contaminate healthy ones.

When repotting, spread the roots out regularly, and work the compost down between them, not allowing them to be bunched up together. The compost for most of these plants should contain a good percentage of fibry loam, especially that for *C. insigne*, *C. Spicerianum*, and similar kinds. They need not be elevated above the rims unless they happen to be weak or poorly rooted specimens, and, unlike most Orchid roots, those of *Cypripediums* may be watered freely a day or two after repotting.—H. R. R.

Shade Trees Wanted for London.

The suggestion in a daily contemporary is a good one. The hint is once again repeated to the Metropolitan Borough Councils that "Combined action might well be taken to beautify the streets of London in an effective yet simple and inexpensive way, by planting trees in the wider thoroughfares." An attempt is being made to improve the appearance of Blackfriars Road in this way. Where trees would not interfere with vehicular and pedestrian traffic, they are the best form of ornamentation. Imagine how much more ornate Whitehall, Trafalgar Square, Regent Street, and Oxford Street would be if the rows of brick and mortar were relieved by lines of trees. The principle might be extended to the suburbs, but the aim of the jerry builder appears to be to destroy every tree which comes in his way.

Landscape Gardening.*

(Continued from page 578, last volume).

When at Combe Abbey in 1861, the late William, Earl of Craven, showed me a great book on landscape gardening, the title of which I cannot now correctly give. As far as I remember, it would be about 2ft square or thereabouts. It contained garden sketches of many of the great mansions of England. They were, every one of them, from beginning to end of the book, exactly of the same formal or Dutch style—all laid out in squares or angles, with hedged-in enclosures and straight lines of avenues of trees, with the exception of some of the latter still remaining. I could not trace a vestige of even the remnant of such laid-out pleasure gardens, and yet these gardens, if ever they existed, must have been designed and laid out long subsequent to the demolition of the Abbey by Henry VIII., as the house when first I saw it in 1861, corresponded exactly with the picture of it in that book. A figure of the same you may see affixed in the left-hand lower corner of the plan of those gardens laid out by me, and now, along with other of my work, on the table before you.

Brown, as we have already said, pursued and practised successfully that graceful, free, and easy style of landscape gardening which has been cleverly followed up with more or less of emendation by the younger school of garden artists. Amongst many parks laid out by Brown mention is made of Kew, Blenheim, Combe Abbey, &c. At Combe, Brown did not find much of the natural capabilities he always looked out for when called upon to advise about the improving of a place, but what Brown could not find he created. Here he formed a magnificent piece of water, eighty acres more or less, which has always been well stocked with a good variety of freshwater fish. The great mistake belonging to the formation of this lake was in allowing a dirty, muddy stream to pass through it, when a by-pass could have been easily made to send the stream another way, and this without any serious engineering difficulties. The consequence is a great breadth of the pool at the end nearest to the house, and nearest to the inflow, is silted up and overgrown with no end of aquatic and lake shore plants. The yearly growth and decay of such vegetation has created a malarial swamp, which should be avoided by all sensible persons. The removal of this mud would, of course, be only a matter of £ s. d., but costing probably quite as much as did the original formation of that part of the pool; but it would be absolute folly to spend money to do this until the course of the river was diverted. Besides the formation of the pool, which, together with the gardens, are the chief charms of the place, Brown very much improved the park by surrounding it as far as he could with shelter belts of plantation, and also by planting groves and clumps of trees judiciously dotted here and there, so that much credit is due to Brown for having made so much of a place lying so low—as its name implies—and possessing so few natural capabilities, as Brown himself expresses it.

Brown and Loudon.

Before and after the time of Brown's improvements, there must have lived at Combe one or more Lord Cravens who interested themselves considerably in tree planting, as we find when Loudon visited the place years after, collecting material for his "*Arboretum Britannicum*," a most valuable work even at the present day, we find him making note of sundry trees which he evidently thought deserving of mention, either for their rarity in those days, or for their goodly size. The names of some of these trees are as follows:—*Pinus sylvestris*, 100 years planted, 70ft high, 3ft 9in in diameter. Of these there were four in my time standing near to each other. One went quite dead in 1881; when felled it was found to be as hollow as a gun barrel all the way up. Another, the largest, was broken over above ground in that ever memorable gale of Sunday, March 24, 1895. This tree was also rotten at heart, and evidently going hollow like the other. In 1898 another went dead whilst standing upright. There was only one left alive when I came away in that year. Cedars of Lebanon, 47ft high, the diameter of trunk 4ft, head 80ft. Some of the finest of

* A lecture delivered by Mr. WILLIAM MILLER, F.R.H.S., landscape gardener and nurseryman, Berkswell, before the Birmingham and Midland Counties Gardeners' Mutual Improvement Association, November 4th, 1901.

these trees were growing at a place called the Menagerie, a lovely grove situate at the west end of the park; but the largest and finest of them were blown down long subsequent to Loudon's visit. *Juniperus virginiana*, or Red Cedar, 60 years planted, 44ft high, 1ft 9in in diameter. *Taxodium distichum*, 47ft high, diameter of trunk 2ft 3in, and head 24ft. This tree has very much grown, and is a magnificent specimen of its kind. *Thuja orientalis*, 60 years planted, 31ft high. *Pinus strobus*, 60 years planted, 60ft high. Other trees also

disabled him for two years, and ended in a perpetual ankylosed knee and a contracted left arm. Soon after this he had his right arm broken twice, and was obliged eventually to have it amputated, but not before a general break up of his frame had commenced. A thumb and two fingers of his left hand had been rendered useless. His constitution was finally undermined by the anxiety attending on that most costly and laborious of all his works, the "Arboretum Britannicum." No man deserved more of the



EPIDENDRUM LINDLEYANUM, FORMERLY NAMED BARKERIA LINDLEYANA.

mentioned are *Ailantus glandulosa*, *Liriodendron tulipifera*, *Liquidamber styraciflua*, &c.

Whilst alluding to Loudon in reference to these trees, it might be interesting to some of those young gardeners who have favoured us with their presence here this evening, to give a short sketch of this very extraordinary man, who is the more interesting to us on account, I believe, of his having laid out the now famous Birmingham Botanic Gardens. It makes some of us feel that when walking through those beautiful gardens that we are treading on real classical horticultural grounds. No man, says one of his biographers, has ever written so much under such adverse circumstances as Mr. Loudon. In 1803, when he first came to England, he had a severe attack of inflammatory rheumatism, which

horticultural world than did Mr. Loudon, for much though his works inspired and improved those gardeners who took pains to read them, yet the whole drift of his Herculean labours went out in, and for the interest of, the landed proprietors of Great and of Greater Britain. The titles of some of his works are as under, viz.:—"The Encyclopedia of Gardening," "Arboretum Britannicum," "Encyclopedia of Cottage, Farm, and Villa Architecture," "Encyclopedia of Trees and Shrubs," "Encyclopedia of Agriculture," besides which he edited the "Gardeners' Magazine," and much more of which we have no particulars, and made many journeys to the Continent in search of information and material for his great works.

(To be concluded.)

NOTES

NOTICES

Metropolitan Rose Show, N.P.S.

The date of the National Rose Society's Rose Show, in the Temple Gardens, has been definitely fixed by the committee for Wednesday, July 2nd next.—EDWD. MAWLEY, Hon. Sec.

A Grand Flower Ball.

On Monday, January 20, at the Empress Rooms, Royal Palace Hotel, Kensington, W., in aid of our Dumb Friends' League, a grand flower ball is to be given. Ladies are requested to wear costumes representing flowers, and although no hard and fast rule has been laid down, many handsome dresses, exquisitely trimmed with flowers, are to be worn. Gentlemen will appear (says the "Evening News") with white waistcoats and white buttonholes, and floral decorations will also be carried out in the rooms.

Smith's Seed Catalogue.

The Worcester firm of Richard Smith and Co. offer a number of prizes, of which particulars are furnished inside the front cover of their seed catalogue, just published. This publication also contains remarks on the importance of vegetables to health and preparation of vegetables for table; also culinary notes under their respective headings. The cream of the Sweet Pea varieties, all classified in colours and arranged in order of merit, are tabulated. The following novelties are specially referred to: Coccineus, George Gordon, Miss Willmott, and Hon. Mrs. Kenyon.

Honouring Mr. Forbes.

Mr. James Forbes, Commissioner on His Majesty's estates at Balmoral, who is leaving to fill a similar appointment under the Duke of Atholl, was recently presented by the tenantry and others on the Royal estates with a massive silver bowl and candelabra, together with a magnificent diamond brooch for Mrs. Forbes. The bowl bore the following inscription:—"Presented along with candelabra to James Forbes, Esquire, M.V.O., Commissioner to the late Queen Victoria, and subsequently to King Edward VII., on the Balmoral Estates, when retiring to take up a similar position on the Atholl properties; also a diamond brooch to Mrs. Forbes, by the tenants, servants, Royal tradesmen, and others, as a mark of respect and esteem. 7th January, 1902."

United Horticultural Benefit and Provident Society.

The monthly meeting of this society was held at the Caledonian Hotel on Monday evening last. Mr. C. H. Curtis presided. Eleven new members were elected and one other nominated. The committee were compelled by rule to reject two candidates, they being just over forty-five years of age. Two new honorary members were elected. An old member that has been on the sick fund for eleven months, and being still ill and in distress, was granted £2 from the benevolent fund. Two members were deputed to attend the meetings on January 14 and 15 respecting the old age pension scheme. Three members were transferred from the lower to the higher scale of payments. Messrs. W. Gunner and T. H. Puzey were re-elected to audit the accounts for the past year. The treasurer has a balance in hand of £182 14s. 2d.

Chiswick Gardeners' Society.

In another column we are privileged to print an abstract of the first lecture, given a week ago to-day, January 9, before this society, by Mr. T. A. Dymes. The complete syllabus till April is as under, and it is to be noted that the member's name who opens the discussion follows that of the essayist: January 23, "Ferns: General Cultivation and Little-known Species Worth Cultivating," by Mr. A. Osborn (Mr. M. T. Dawe); February 6, "Plant Life," by Mr. E. Miller (Mr. A. Osborn); February 20, "The Root: Morphology and Physiology," by Mr. R. J. Tabor, F.L.S. (Mr. T. A. Dymes); March 6, "A Chat about the Seed Trade," by Mr. A. Dawkins (Mr. S. T. Wright); March 20, "Gardening: Past and Present," by Mr. J. Harrison-Dick (Mr. T. Humphreys); April 3, "Experiments in Artificial Manuring," by Mr. F. W. E. Shrivell (Mr. C. H. Buck).

Croydon Gardeners'.

The second annual social dinner of the Croydon and District Horticultural Mutual Improvement Society will take place next Wednesday evening, January 22, at the Greyhound Hotel, Croydon.

His Majesty's Woods and Forests.

The seventy-ninth annual report of the Commissioners for His Majesty's Woods, Forests, and Revenues, shows that in 1901 the gross income was £592,066 13s. 5d., and the expenditure £114,375 9s. 8d. Half a million was paid into the Exchequer out of the income since 1851. The Commissioners believe the income may be expected to continuously increase, and that within the next quarter of a century the increase will be considerable.

Fruit Growing Enterprises in Cornwall.

After engaging for some years in fruit culture in Kent, Mr. Walter Kruse purchased, in the autumn of 1899, a farm of 300 acres in Cornwall, on the banks of the Fal, and in less than two years he had 120 acres planted with fruit, including about fifty acres of Strawberries, with Apples, Pears, Plums, Cherries, Nuts, Gooseberries, and Currants. As fruit had not been grown extensively before in the district, the enterprise shows a great deal of courage, and it has excited much interest in the county.

Cherry House.

The seasonable operations here are to give due attention to watering trees in pots and syringing on fine days. Damp the house occasionally if the weather is dull, but do no syringing. Maintain the night temperature at 40deg, 45deg to 50deg in the daytime by artificial means, ventilating at 50deg, and allowing a rise of 10deg to 15deg from sun heat, with full ventilation, closing at 50deg. Scrutinise the trees closely for aphides, and if there be trace of any, take measures at once to eradicate them. Quassia extract properly diluted is one of the best preventives and remedies for aphides.—A.

Cheshire Potato Crops.

The Cheshire County Council have completed some further experiments at the Agricultural County School at Holmes Chapel with regard to Potato crops. The net result shows that the average yield of Potatoes per acre this season was considerably greater than in 1890, and that disease was less prevalent. The yield, however, was not so large as it had been in previous years. The season probably accounted for this. The planting of fairly large sets gave a greater return than small sets. The best and most profitable yields were again obtained from a good dressing of farmyard manure, supplemented with a full mixture of artificials containing nitrogen, phosphorus, and potash in an available form. The experiments showed that manures have considerable influence upon the size of the tubers, and that a small dressing of muriate of potash is more economical than a larger one.

Scottish Horticulturists.

The syllabus of the Scottish Horticultural Association for the year 1902 includes the following papers on the dates given as under: February 4, "A Hybridist's Experiences" (limelight illustrations), by Dr. John H. Wilson, Greenside Nursery, St. Andrews—Dowell's Rooms, 18, George Street; March 4, "Plant Structures" (limelight illustrations), by Mr. A. T. Gillanders, Park Cottage, Alnwick—Dowell's Rooms, 18, George Street; April 1, "Root Management of Hardy Fruits," by Mr. Temple, Carron House, Falkirk; May 6, subject to be notified further on, by Mr. J. H. Cumming, Grantully Castle, Aberfeldy; June 3, "Extensive Experiments in Kitchen Garden and Fruit Produce," by Mr. Shirwell, Thompson's Park, Golden Green, Towbridge; July 1, "Composition of the Orchid and its Culture," by Mr. Jas. Wilson Graham, Inverallon, Corstorphine; August 5, "A Supply of Vegetables All The Year Round," by Mr. Blair, Preston House, Linlithgow; September 2, "Pear Culture in Pots," by Mr. Wm. M. Moir, Rosehaugh, Ross-shire; October 7, "Vegetables for Exhibition," by Mr. Brown, Houston House, Johnstone, Renfrewshire; November 4, "Bouquets, and How to Make Them," by Mr. M. Todd, Stoneybank, Musselburgh; December 2, "Horticultural Exhibitions, with Remarks on their Commercial, Educational, and Social Aspects," by Mr. John Anderson, Greenside Place, Edinburgh. The hon. secretary is Mr. Peter Loney, 6, Carlton Terrace, Edinburgh.

Mr. Molyneux's Chrysanthemum Analysis.

The annual analysis of the merits of varieties of the Chrysanthemum is promised by Mr. Molyneux for our issue of January 30. He writes to say that growers are tardy in sending their returns to him.

Royal Gardeners' Orphan Fund.

Though Mr. Brian Wynne, the secretary of the above, has given us no official intimation of a change in the address of the offices of the Royal Gardeners' Orphan Fund, these are now at 30, Wellington Street, Covent Garden, W.C.

Taxing Dutch Bulbs.

The Dutch, according to the "New York Herald," are at present extremely afraid that the United States may tax Dutch bulbs. Their fear is based upon the fact that the Dutch Minister of the Interior is considering the question of taxing American Corn, which is imported into Holland in great quantities. Owners of mills in Holland cannot deliver Dutch flour as cheaply as American flour is sold. The cry for protection against the American invasion had remained unheard hitherto, as the Government considered that it would be an indirect tax on the poorer classes.

Richard Dean Testimonial.

At a meeting of subscribers to the Richard Dean testimonial, held in the Royal Aquarium, Westminster, S.W., on Tuesday last, January 14, William Marshall Esq., in the chair, it was agreed that an address on vellum (not to exceed £5 in cost), together with a cheque, be presented to Mr. Richard Dean, V.M.H., on the evening of Tuesday, February 4, at a social dinner, the place to be fixed upon by the committee who have arranged the testimonial. Mr. R. Dean's seventy-second birthday is on Saturday, January 31. The presentation will be made by N. N. Sherwood, Esq., chairman of the testimonial committee. Mr. H. J. Jones mentioned on Tuesday that £300 was the total expected. Up till the 14th the sum of £290 odd had been assured.

Seeds Required for a Garden of One Acre.

Peas, 5 quarts; Beans, 2 quarts; Kidney Beans, 1 pint; Scarlet Runners, 1 pint; Cabbage (early), 2oz; Savoy, 1oz; Brussels Sprouts, 1oz; Cauliflower, ½oz; Broccolis, 2oz; Borecole, 2oz; Cabbage (red), ½oz; Cabbage (late or Drumhead), 1oz; Kohl Rabi, ½oz; Onions, 4oz; Carrots, 2oz; Turnips (white), 2oz; Turnips (yellow), 1oz; Celery, ½oz; Spinach, ½ pint; Beet (red), 1oz; Beet (silver), ½oz; Leek, 1oz; Parsnip, 2oz; Salsafy, ½oz; Skirret, ½oz; Scorzonera, ½oz; Endive, 1oz; Lettuce, 2oz; Radish (long), ½ pint; Radish (Turnip), ½ pint; Mustard, ½ pint; Cress, ½ pint; Parsley (curled), ½oz; Potatoes (early, in two sorts), 1½lb; Potatoes (late, in two sorts), 2lb; Jerusalem Artichokes, 1 gal; Garlic, ½lb; Shallots, 1lb; Sweet and Pot Herbs (of sorts), 1oz; Rhubarb, 25 roots.

White Blackberry "Iceberg."

The following is Mr. Burbank's (the raiser's) own description, and its accuracy is vouched for. He says: "Owing to the somewhat unsatisfactory qualities of white Blackberries so far known, the impression may have been entertained by some that no white Blackberry could be as productive and hardy, with berries as early, abundant, large, handsome, and delicious as the best black ones. The well-known Lawton is, when ripened, unsurpassed, and very generally known as the most productive market berry. Owing to its fixity of race it will reproduce itself from seed almost exactly, and its seedlings will not be influenced when raised from seed pollinated by other varieties, but it readily imparts its good qualities when employed as the staminate parent. One of the great grandparents of 'Iceberg' was Lawton. The first generation of seedlings when crossed with Crystal White, was all black; the second also, though varying much in other respects; but the third produced this wonderful plant bearing the snowiest white berries ever seen. Very little attention was paid to the long rows of cross-bred descendants, until one day this berry was discovered, among its black relatives, with the canes bending in various directions with their load of delicious snowy berries, which are not only white, but so transparent that the seeds, which are unusually small, may be seen in the berries when ripe. Clusters larger than those of Lawton; berries, as near as could be judged, were at least as large, earlier, sweeter, and more tender and melting throughout, though as firm as Lawton is when ripe."

New Violet, "Pink Gem."

A clear pink Violet is undoubtedly a new shade of colour in hardy Violets, and is sure to awaken wide interest in the new Pink Gem. A little bed of it will produce a sheet of bloom, so to speak, and will increase and soon carpet the ground. —("Meehans' Monthly.")

Weather in S. Perthshire.

After a course of variable weather, with a good deal of rain and westerly gales, some nights being unusually boisterous, frost again set in on the night of the 10th inst. During the night of the 11th there was a considerable snowfall. Monday morning showed 16deg of frost, which held throughout the day.—B. D., S. Perthshire.

Lecture on Horticulture.

Mr. T. Redington, F.R.H.S. (of the Yorkshire College, Leeds), on Monday, January 6, in the Girls' School, Kirkburton, gave the first of a series of five lectures on horticulture. His subject was "The preparation of soils and manuring of same," which was dealt with in a most able manner, and no doubt will be of interest both by professional and amateur gardeners. There was a very fair attendance.

Forfar Gardeners.

A meeting of this association was held in the Meffan Institute on January 7. Mr. Thomas Shiel, Vice-President, occupied the chair, and there was a large attendance. The paper for the evening was given by Mr. Thomas Fender, Cultoquhey Gardens, Crieff, and was entitled, "A walk round the vegetable section with the non-official judges." The paper was of a humorous nature, and was greatly appreciated. At the close the essayist was cordially thanked. A very fine collection of plants from Glamis Gardens was shown and much admired.

Wood Pigeons in North Devon.

Extensive damage is reported to have been committed in North Devon by thousands of wood pigeons which have been driven from the northern and eastern counties by the hard weather. There is a case in which two acres of luxuriant Trifolium have been absolutely destroyed by the birds, which have not only eaten the leaf, but picked the heart out of the young plant. Clover, Vetches, Turnips, and Swede tops have also been destroyed in such large quantities that a systematic campaign against the wood pigeons is suggested. As showing the amount of damage wood pigeons can do, it is asserted by those competent to judge that five birds will eat as much in a day as a sheep.

Planting Fruit Trees.

The distances for planting fruit trees should be as follows:—Standards in orchards, 15ft to 30ft apart, the distance to be ruled by the size of the trees and the space available. Bushes, 6ft to 8ft; pyramids, 8ft to 16ft; fan and horizontal trained, 10ft to 20ft; standards and half-standards against walls, 8ft to 12ft; single cordons, 1½ft; double cordons (i.e., having two stems instead of one), 3ft; horizontal cordons, 4ft to 6ft; double horizontals (i.e., horizontals having two stems running in opposite directions), 8ft to 12ft; Gooseberries and Currants, 5ft; or if vegetables are to be grown between, a greater distance must be allowed for the purpose; Raspberries, 2ft apart in rows 5ft asunder, or in groups of three, 3ft apart, also rows 5ft asunder.

Variorum.

We learn that Mr. Daniel Dewar, formerly of Kew, has tendered his resignation as curator of the Glasgow Botanic Gardens, and that it has been accepted. Mr. Dewar vacates his appointment on March 1. * * Gerbera Jamesoni is offered by a firm in the United States at 75 cents each, or 5 dollars per dozen. It is very scarce in America. * * Now is the time for gardeners to lift a few rhizomes of German Irises, Dicentra spectabilis, and other hardy plants, to pot them, and, under gentle heat, to bring them early into flower for use in the conservatory. The Irises are easy to treat, and are especially beautiful. * * The Heather (Calluna) has been decided upon as the symbolic flower of the Celtic race by the recent Pan-Celtic Congress. * * Abnormally warm weather is being experienced all over the East of Europe, especially in Russia. Meteorologists cannot explain the cause. In many parts of Hungary and Servia flowers and fruit trees are in full bloom. * * The Elberta Peach has been planted to an enormous extent in Georgia, U.S.A., this season. Over 20,000 acres are reported to be planted, using over 3,000,000 trees.

Begonia × Julius.

It will be conceded that the efforts of the Journal in drawing attention to the new race of winter-flowering Begonias raised at Chelsea by Messrs. James Veitch and Sons, Limited, have been, at least, persistent. Again we reproduce a flower-truss of the Balsam-flowered novelty named Julius, the colour here being pale rosy-peach with a suggestion of the blush shade. So far as we know, this marks the first advance to the perfectly double form of flower in these new Begonias. A plant in a 5in or 6in pot, as grown by Mr. Heal, or the Feltham foreman, Mr. Moss, will carry a great crowd of graceful trusses; of which our figure represents but one. As the reader observes, each bud and individual flower is free and separate, so that its form is apparent on all sides, and below grows the relieving dark-green foliage. These characteristics are all such as the gardener demands for decorative uses. Easy to cultivate, the plants are free and vigorous, requiring only a good airy glass house, with a temperature ranging between 50deg and 60deg at this time of year, to ensure their successful development. It is generally known that they flower in great splendour during the darkness of the winter months, from November onwards. The strain is being annually added to in number of varieties, the earlier crosses having been made with *Begonia socotrana* (one of the parents of *B. Gloire de Lorraine*) and the late flowering tuberous rooted Begonias.

The flowers of *B. x Julius* have been elsewhere likened to those of a double pink Oleander, "exactly of the same colour." It is of good habit and very free flowering, being the result of a cross between a white form of the tuberous-rooted section and the species *socotrana*.

Plants for Table and House Decoration.

In treating with this subject, I will first start with foliage plants. *Aralia elegantissima* and *A. Veitchi* are two very light and handsome plants for growing for table work, grown from a foot to 18in high. These thrive well in a light peaty compost, grown in a stove temperature. *Aspidistra lurida*, and *A. l. variegata*, should be grown by all who have house decorations to do. Not only will they last for a long time in good condition, but will stand the effect of gas better than almost any other plant. They are easily grown in a greenhouse, potted in a rich compost, and readily increased by division.

Caladiums.

These fine ornamental foliage plants are some of the best for decorative purposes, grown either as table plants or for rooms. The tubers should be started in February and March in small pots, and placed in a moist temperature of 65deg to 70deg. When sufficiently rooted, pot into large 60's, 48's, and 32's. These sizes will be found most useful for table work; for other purposes keep them growing, and pot them on as they require it. A thorough drainage is necessary, as the plants require plenty of water during the summer months, feeding with liquid manure and soot water twice a week. Shading is required through the brightest hours of the day, and a dew over with the syringe morning and afternoon is beneficial if rain water is used for this purpose. In autumn, when the foliage shows signs of fading, less water must be given, gradually lessening as they die down. Then they should be laid on their sides under a stage in the store, where they generally get sufficient moisture to prevent them getting too dry through the winter. Caladiums succeed well in fibrous loam two parts, one part of peat, and well-decayed cow manure, with a sprinkle of sand to keep it porous. *C. argyrites* and *C. minus rubescens* are two of the smallest and best for small pots. The former one will always be found exceedingly useful for table work. There are so many good varieties that it is useless for me to make mention of names.

Codiaeums (Crotons).

Are indispensable to the decorator, their richly coloured leaves rendering them nearly as showy as flowers. Varieties of a drooping habit, or narrow leaved, are far more graceful than the erect leaved sorts for using on a table. Cuttings are best taken in the spring, inserted in small 60's, using a light sandy soil, and placing them in a propagating case with

a bottom heat of 75deg to 80deg till rooted. Old plants that have become lanky and shabby should be notched, and moss tied round them, which must be kept moist till the roots appear through; then they should be cut off, and potted in small pots, placing them in a case and keeping close for a few days. After the cuttings and tops are well rooted, stand them out of the case for a day or two before potting on. Then they should be placed in 48's and 32's. A few should also be grown in small pots, as these are always handy for dot plants, &c., on a table. If specimen plants are wanted for the rooms, pot on into larger sizes. Codiaeums require a compost of two parts turfy loam, one part peat and leaf-mould, with an addition of sand, or fine brick dust, potting firm. They delight in plenty of heat and moisture, and when grown in a house to themselves require little or no shading. The following varieties are some of the best for all-round purposes: *aigburthiensis*, *ancitumensis*, *Chelsoni*, *Disraeli*, *Evansianus*, *Hawkeri*, *interruptum*, *Lady Zetland*, *Langi*, *Mrs. Dorman*, *Nestor*, *Queen Victoria superbus*, and *Warreni*.

Cyperus alternifolius and *C. laxus variegatus* are two very useful plants for indoor work, easily raised from seed sown in spring, or from tops put in a pan of moist sand, thriving well in a mixture of peat and sand, and grown in a warm greenhouse.

Dracenas and Cordylines.

These make splendid decorative plants for tables and rooms if grown in the same sized pots as advised for Codiaeums. Dracenas may be propagated in the same manner as the latter, and old plants mossed similar. The stems may also be cut into pieces, the same way as for Vine eyes, and placed in fibre, several in a pot. These soon make nice plants for growing on. They require plenty of heat and moisture, with more shade than Codiaeums, treating the same in regard to potting and soil. The following varieties will be found useful ones for any purpose: *Australis*, *congesta*, *indivisa*, and *rubra* (these four can be grown in a greenhouse), *Baptisti*, *Cooperi*, *Guilfoyl*, *Hendersoni*, *hybrida*, *Lindeni*, *nigra rubra*, *Sydneyi*, *Sanderiana*, and *terminalis*.

Eulalia japonica variegata is a valuable variegated Grass for decorating, well worth growing for its usefulness for table and grouping purposes, easily increased by division, and grown in a warm greenhouse, succeeding in any ordinary potting compost.

Ferns.

It is impossible to do without Ferns where decorations are required. They should be grown in various sizes, then they are useful for any object. Adiantums (Maidenhair) are chiefly grown, and are easily increased by division. The best time for this is in the spring, just as they are breaking into new growth, their chief requirements being a good drainage (as sour soil soon proves fatal to Ferns), and a compost of loam, leaf-mould, rubble, and a sprinkling of sand. *A. cuneatum*, *A. decorum*, *A. Farleyense*, *A. gracillimum*, and *A. Pecottei* are useful ones to grow.

Pterises, being hardier, are very useful in a small state, such varieties as *argyrea*, *Mayi*, *serrulata*, *S. cristata*, and *tremula*. *Alsophila excelsa*, *Asplenium bulbiferum*, and *Nephrolepis pectinata* will be found exceedingly useful for large specimens for the rooms. *Asparagus plumosa nana* and *A. Sprengeri* are always handy, *A. Sprengeri* more especially, for hanging over boxes and baskets. Most of the Ferns mentioned may be grown in a warm greenhouse.

Ficus elastica, and its variegated form, are largely grown for indoor decorations, and will stand for a long time in good condition in the house. They are of easy culture, grown in fibrous loam and sand, propagating by cuttings, or eyes with a leaf attached, and placed in a propagating case. *Grevillea robusta* is a graceful greenhouse plant, excellent for either table or house decoration, easily raised from seed sown in spring, on a slight hot bed, and grown on, thriving well in a compost of loam, leaf-mould, and sand.

Palms.

These include some of the most useful foliage plants we have grown for decorations, being indispensable for rooms, and a few are suitable for table work as well. Certain Palms will stand for weeks in the house if properly watered and kept clean. Most of them delight in heat and moisture, both at their roots and overhead, potting firm, in good fibrous loam and brick dust, with a few lumps of charcoal added to it.

Cocos Weddelliana and *Geonoma gracilis* are two of the best, and most graceful for table plants, when grown about 18in high. These require a stove temperature, and a compost of two parts loam, one part peat and sand. The following Palms will be found useful for the rooms: *Areca lutescens*, *Kentia Belmoreana*, *K. Canterburyana*, *Latania borbonica*, *Phoenix reclinata*, and *Seaforthia elegans*. These can be grown to any size they may be required for.

Pandanus Veitchi, with its green and white foliage, is one of the best stove plants grown for standing the gas, &c., in the house; useful for table in a small state, and for the

Rotation in the Kitchen Garden.

The importance of a suitable rotation of crops in the kitchen garden is a point that does not require much urging; the advantages to be obtained by it are obvious, and the ill effects resulting from growing on a piece of ground an undesirable succession of plants soon make themselves only too apparent. The gardener, however, unlike his agricultural brother, cannot follow any cut-and-dried system of rotation, from which he seldom finds it necessary to divert. The greater number of his crops, the varying length of time they remain in the ground, and the fact that he frequently does not want to grow the same crop in just the same quantity for two seasons in succession render it impossible, and though he may envy the farmer his confidence in his three-course or his four-course rotation, and admire the fidelity with which he maintains it, he cannot hope to do likewise. He must be continually plotting and scheming if he would have one crop succeeded by another which, while suitable, causes the least delay of time, and makes the best use of the ground.

Without doubt, some crops do particularly well on ground that has previously been occupied by certain other crops, and when feasible, those crops should be planted on that ground, but, unfortunately, such a course is not always feasible. We knew a certain lecturer on vegetable culture who had a great faith in Celery as a preparatory crop. He said, and rightly, that the heavy manuring and deep working of the soil necessary in growing Celery fitted it admirably for root-crops; and any vegetables which, in soil recently manured, and where the manure had not had time to thoroughly decompose, were liable to become scabby, forked, or a prey to insects, should be grown after Celery. Excellent advice, but when he went on to insist that Carrots, Beet, Onions, Parsnips, Potatoes, and sundry other things should always be grown on ground from which a crop of Celery had been taken, one of his audience was heard to remark that it might easily be done if only people would be content with Celery and nothing else for six months in the year, otherwise he did not see how it was to be managed.

But though no rule can be set forth, there are several points which should be taken into consideration in deciding in what order vegetable crops are to be sown or planted on a piece of land. Plants belonging to the same natural order generally exhaust the soil of the same constituents to the same extent, and are usually subject to the same diseases and insect pests, so that any crop of plants should always be followed by another crop belonging to a different family. Insects, like most other things, have their fancies. The troublesome Onion-fly has as keen a taste for that vegetable as any Italian, and, as the advertisement says, "He won't be happy till he gets it," but he treats the Cabbage family with contempt, while the caterpillar of the Cabbage butterfly delights itself in the nourishing, blood-purifying greens, and never pining for the stronger flavour of the Onion-bed, turns from it with loathing and will have none of it. The Celery-fly swears by his favourite food, and will have no other, and even the ubiquitous wireworm, by no means a dainty kind of insect, is more damaging to root-crops, such as Carrots and Parsnips, than to most other things. So the greater

liability of a crop to suffer from the depredations of insects if grown in the same place twice in succession is obvious, and the same thing applies to fungoid and other diseases. Club-root or "finger-and-toe" is characteristic of the Brassica family, and only attacks Cruciferous plants, while the Potato disease, *Peronospora infestans*, like an Irishman, sticks manfully by that tuber, and will touch no other vegetable.*

By adopting a good system of rotation the soil is made better

[* At the same, Mr. Massee of Kew states that Tomatoes are subject to this *Peronospora*, or correctly, *Phytophthora infestans*.—ED.]



BEGONIA × JULIUS.

A BALSAM-FLOWERED NEW VARIETY OF THE WINTER-FLOWERING HYBRID BEGONIAS.

rooms when grown as a specimen, easily increased by side shoots, treating as for other stove cuttings, potting in loam and rubble, with a little sand added.

Panax Victoræ is an exceeding pretty plant for table decoration when grown in 60's and 48's. Cuttings strike freely inserted in spring, as for other stove cuttings, or by cutting of the roots, potting in a compost of loam, peat, and sand. It is always well to have a good supply of *Panicum variegatum* and *Selaginella denticulata* in small pots for table and house decorations. These are easily increased.—J. BOTLEY.

use of owing to the fact that different classes of plants exhaust the soil in varying degrees. Some have delicate appetites, and require but little; others, more robust, like the Cabbage tribe (perfect gourmands of vegetables, these), are gross feeders, and impoverish the soil to a much greater extent. The Cabbage, too, being shallow rooting, is content to ramble about near the surface for its food; and so is best followed by a deep-rooting crop, like the Parsnip, for instance, which finds its way down into the soil, and takes up the food constituents previously untouched. Another important point is that one plant will utilise largely one essential ingredient of the soil, and another plant another ingredient. Thus Potatoes, while requiring phosphates and nitrogen, are particularly partial to potash, and absorb it in large quantities. Turnips and Parsnips glory especially in phosphorus, and will not flourish in a soil deficient in phosphates, while nitrogen is as the breath of life to the Cabbage, Cauliflower, and Brussels Sprout family.

Leguminous plants, Peas, Beans, &c., are not benefited to such an extent by nitrogen, and some authorities go so far as to say that leguminous crops should have a place in all rotations, because they not only require no application of nitrogenous manure themselves, but actually enrich the soil in this important constituent. They are certainly not so susceptible to the application of nitrogenous manures as other crops, and theorists will discourse learnedly of the nodules on the roots, of Hellreigel's theory, and the absorption of the free nitrogen of the atmosphere, and declare that any nitrogenous manure given them is wasted, though plenty of gardeners of many years' practical experience can be found who will maintain, in spite of all arguments, that such a manure as sulphate of ammonia has a marked effect on Peas and Beans, and will cite numerous examples from their own experience to prove it.

When circumstances render it possible it is a good plan to leave a piece of ground bare for the winter and throw it up roughly into ridges, exposing as great a surface as possible, so that the action of the frost may disintegrate it, permeating it, and setting free and making available for plant food important constituents previously in an insoluble state, notably potash. Geologists tell us that frost played a great part in breaking up the rocks originally forming the earth's crust, and causing the globe to become fit for habitation, and its effect on the soil now is no less beneficial. The desirability of losing as little time as possible, and not indulging in unnecessary labour, hardly needs mentioning. Cabbages planted in autumn for spring cutting, for instance, which do best and stand the winter in a firm soil, well consolidated, could be put in immediately after a crop of Carrots had been cleared; the ground would be fairly solid, and would merely want raking over, and no time would be lost. Potatoes delight in a loose, open soil, and early varieties might be set on a piece that had been thrown up into ridges for the winter, after just levelling down.—A. W. D.

Jottings on Pines.

Fruiting plants and starters should now have a mean temperature of about 70deg, varying it 5deg according to external conditions, admitting air at 80deg with sunshine, but not lowering the temperature, allowing the heat to rise to 85deg, closing the house at 80deg. Syringe all surfaces twice a day, but do not sprinkle the bed between the plants; also avoid dense steam produced by syringing highly heated hot-water pipes. The plants should be syringed occasionally early in the afternoon, when the axils of the leaves become dry. Examine the plants about once a week, and supply clear guano or soot water to such as need water at the roots, always at the same temperature as that of the bed.

About the commencement of February more plants of Queens should be started to supplement the supply of fruit from those which are already introduced for affording it early in summer. Beds having hot-water pipes beneath them can soon be prepared for the reception of the plants, but it is not the case where fermenting materials alone are used, hence the subject is mentioned in advance, so that the needful preparation may be made at once, and 85deg to 90deg of bottom heat secured by the time required. When plants which have been kept somewhat drier are started, see that the balls of soil are made properly moist, so that with the extra warmth root action may commence at once.

A night temperature of 60deg. to 65deg, and 5deg less in severe weather, will be suitable for the successional plants, and 5deg to 10deg higher in the daytime, according to external conditions. Keep the plants rather dry at the roots, but not excessively so, and where water is necessary give it thoroughly, at a temperature of about 80deg, always with some substantial food elements contained in solution. Suckers should have a temperature of 55deg to 60deg, 60deg to 65deg by day from fire heat, and 10deg more from sun heat.—PRACTICE.

Obituary.

The Late Mr. Edward John Beale, J.P., V.M.H.

One by one the original Victorian Medallists of Honour in horticulture are passing away. The latest death from the ranks is that of Mr. Edward John Beale, senior partner of the firm of Carter and Co., High Holborn, London. Mr. Beale died somewhat suddenly on the morning of Wednesday, January 8, in his sixty-seventh year. The late gentleman joined Mr. James Carter (now also departed) while he was a young man, and by the qualities that compose a good man he eventually gained the highest position in that influential firm. Mr. Beale's figure was well-known in London horticultural circles, but he was too retiring to be prominently acquainted out and about. Mr. Gilbert Beale and Mr. Dunnett will now assume the management of the business, the working of which, we are officially informed, will be continued as hitherto. Besides his very high position in the seed trade, Mr. Beale had gained honour from his fellow-citizens outside of business acquaintanceship, for he was a Justice of the Peace for Middlesex. The Royal Horticultural Society conferred on him the Victoria Medal of Honour for eminence in horticulture, and the French Government awarded the distinction of the *Mérite Agricole*. Mr. Beale was also a Fellow of the Linnean Society, and a member of the Royal Agricultural Society. We extend our sympathy to the relatives who mourn his all too early decease.

Peaches and Nectarines under Glass.

Earliest House.

Continue to fertilise the blossoms, using a camel's-hair brush, feather, or rabbit's tail, mounted on a small stick; these are better and more effectual than shaking the trellis. When the fruit is well set syringe the trees occasionally in the morning or early part of fine afternoons, to assist casting off the remains of the flowers. In bright weather syringing may be practised in the morning and afternoon, but in dull weather have recourse to it in the morning, this and damping the house in the afternoon being sufficient. The water employed must be of the same temperature as that of the house, and the inside border should be duly supplied with it.

Disbudding will soon require to be attended to, but it must be done with discretion at this early season, it being better to remove a few shoots daily from a tree than many at a time at distant intervals. The night temperature may now be maintained at 55deg to 60deg on mild nights, 60deg to 65deg by day, 5deg less as the minimum when the weather is severe and dull, admitting a little air at 65deg, not allowing an advance over 70deg without full ventilation, always excepting a little left at the top of the house constantly.

Second Early Forced Trees.

When the blossoms show colour on the trees started with the new year, syringing must cease, but every available surface should be damped in the morning and afternoon. Supply water as necessary to keep the border in a thoroughly moist state. Keep a sharp look-out for aphides. If there be any, fumigate the house on two or three consecutive evenings moderately, which will be sufficient, if effectively administered, to keep the pests under until the fruit is set. In case of an excess of blossom buds, and they are abundant this season, also promising, draw the hand contrary way of the growth aiding the under side or back of the trellis, so as to reduce the number of bloom buds, which will increase the vigour of those left, and best situated, therewith tending to a more even and better swelling of the fruit after setting.

Succession Houses.

Push forward the pruning of the trees, cleansing the house, dressing the trees with an insecticide, and readjusting them to the trellis, leaving plenty of room in the ligatures for the swelling of the branches. The surface of the border may be pointed over with a fork, but not disturbing the roots, the loose soil removed, and fresh loam supplied, sprinkling in it 4oz basic slag phosphate per square yard.

This is particularly valuable on account of the lime, about 50 per cent., it contains, as well as phosphorus, with other essential food elements, for Peaches and other stone fruits, especially where the soil is of a close nature, rich, and full of organic matter or humus. In other cases steamed bonemeal and double sulphate of potash and magnesia, two parts bonemeal and one part sulphate, in mixture, may be applied, at the rate of 4oz per square yard, with advantage.

If the borders are at all dry they should be given a thorough watering. Houses, however, that have moveable roof-lights, and these being off, will not require any water, the soil being thoroughly moist from rain and snow. The shoots are thus kept in a condition by the air moisture unfavourable to evaporation, so that the trees not only have thorough rest, but the buds are prevented falling.—POMONA.

Star Petunias.

Those who undertake to evolve new races of flowers must necessarily have great patience and ardour. Star Petunias are a case in point in which Messrs. A. B. Howard and Son, of Belcher-town, Massachusetts, have spent twenty years improving and developing. "Twenty years is a long time, measured by an individual life, to give to the work of improving a favourite flower. That this effort must needs have been a 'labour of love,' no one would doubt, had they themselves bestowed the labour and time necessary in order to secure the desired results. It was by a long course of close selection, cross fertilisation and breeding covering these many years, before final success was ensured in bringing the single flowered, medium-size multiflora Petunias to the ideal which was sought. Success was gained at an early period, by close 'in-and-in' breeding, in securing the desired colouring and markings, but when these results were secured, the plants produced but little if any seed. Twice during twenty years it has been found necessary to introduce stock, not so closely related or in-bred in order to secure seed-producing stock. The plants are free growers, branching freely and attaining an average height of 18in by 24in or 28in in diameter. They are remarkably prolific bloomers, single plants producing from fifty to 100 or more fully expanded flowers at a time. The blooms are about 2½in in diameter. Their ground colour is a deep crimson maroon, with a velvety depth and richness which cannot be described. From the centre start the points of a five-rayed star, which broadens half-way up, narrowing to a point at the margin of the flower. The star, from which the name is taken, is a very light blush pink, some almost white; which deepens in colour as it reaches the margin and finally blends with the maroon ground colour. The outline, however, is sharp and decisive. Over 80 per cent. of the plants from seed will produce the star markings. Others, with veined and feathery markings, on dark or light ground, are not less surprisingly beautiful." In England, here, Messrs. Hender and Sons, of Plymouth, devote very considerable care to all strains of Petunias.—D.

Cultural Memoranda: Cucumbers.

With the night temperature maintained at 60deg to 65deg, 70deg to 75deg by day and 80deg to 90deg with sun heat, the plants make fair progress. When the air outside is mild, a little ventilation may be given at 80deg, closing before the house is reduced to that degree, so as to advance to 90deg or 95deg. If the external air is cold, although the sun shines, it is better to allow the temperature to advance a little beyond the above limits than to admit cold air, which injures the foliage, also causing the fruit to become stunted, and to curl at the end. Examine plants in bearing about twice a week, removing all weakly, superfluous, and exhausted growths, reserving as much of the young bearing wood as is necessary to fill the allotted space, stopping the shoots above, or two joints beyond, the show for fruit.

Fruiting Plants.

Young plants coming into bearing should not be allowed to bear too soon, and by no means be overcropped. They are greatly assisted by removing the staminate blossoms, also superfluous pistillate flowers as they appear. Tendrils should also be pinched off. The supply of moisture both at the roots and in the atmosphere must be regulated by circumstances and external conditions. Syringing should not be practised on the foliage except a light sprinkling in the early part of bright afternoons, damping the floor moderately at about 8 a.m. and 2 p.m. Encourage the roots to spread on the surface of the bed by adding lumpy loam from time to time, with which may be incorporated a little well decomposed cow manure or fresh sweetened horse droppings.

The Roots—The Pests.

When roots are had in this manner the plants may be fed to any extent by sprinkling a mixture of three parts bone superphosphate, two parts powdered saltpetre, and one part ground gypsum on the surface, at the rate of 2oz or 3oz per square yard every fortnight, with a light dressing of soot between times. Keep a keen eye on the plants for aphides and thrips, and fumigate several times moderately and consecutively rather than once severely. The evening is the best time for fumigating, following it up by another dose the following morning. If mildew appear, dust with flowers of sulphur, and paint the hot-water pipes with a cream formed of it and skim milk. The fumes given off will kill white fly and mildew, also red spider. Canker is also unusually prevalent; freshly slaked lime rubbed into the affected parts will arrest its progress.—A. G.

Notes on Aquatics.

The horticultural display at the late Pan-American Exhibition was highly delightful, and satisfactory from the spring onwards; but among the decorative plants there, none compared with the aquatics. They did not vie with the brilliant Cannas, or the Rudbeckia Golden Glow, which no visitor could help seeing at long range; but water in the landscape in any form, ponds, lakes, fountains, or cascades, is indispensable, always attractive, and there was plenty of it at the Exhibition; but what would all this be without the aquatic plants? The mirror lakes with the bayous and marginal plantings of Water Lilies, Reeds, Rushes, and Cat-tails surpassed anything ever before attempted in water gardening, and these were resplendent with flowers of delicate hues from early in the season, and continued right into the early autumn. These were wonderfully attractive, especially to those who viewed them from the gondolas as they went gliding by. The bridges were another point of vantage.

The two large basins in the Court of Lilies and Court of Cypresses were planted, one with tender Nymphæas and Victorias, the other with hardy Nymphæas and Nelumbiums. In the former such grand Nymphæas as N. O'Marana, N. Geo. Huster, N. rubra rosea, N. dentata, and N. Jubilee, among the night bloomers, and N. zanzibariensis, N. zanzibariensis rosea, N. gracilis, N. Mrs. C. W. Ward, N. Wm. Stone, and N. pulcherrima, day flowering varieties, were well represented, also Victoria regia and V. Trickeri; but through unavoidable conditions did not attain to the high state of perfection anticipated, and such as marked the basin containing the hardy Nymphæas and Nelumbiums. Although much trouble was experienced with this basin, the result, however, was most gratifying, thanks to the indefatigable superintendent of floriculture, Wm. Scott. At no time, and in no place in America, was there ever seen such a magnificent display of hardy Nymphæas, embracing all the new American and French hybrids, including the very prominent and unique dark colours.

The basins were 125ft in diameter. The Nymphæas were planted in groups, mostly eight plants in each group, and reached about 12ft across. These were well furnished with large, handsome, and perfect flowers of intense colour for many weeks, although one or two of them, such as N. Richardsoni, were earliest past their season. In comparing these high coloured Nymphæas with the same varieties grown in other sections of the United States, I am inclined to think there is much in favour of the location. Buffalo, being situated on Lake Erie, experiences cool breezes and has cool nights, even in midsummer. There is also great difference in the temperature of the water. These differences should be borne in mind, and taken into account, when planning and planting a water garden. They do much to prolong the season, and give high colour in the flowers. Among the best of dark-coloured Nymphæas, mention must be made of N. James Brydon, brilliant, rosy crimson; N. Wm. Falconer, intense, bright garnet; N. Arethusa, brilliant crimson pink, an improved N. Laydekeri fulgens; N. gloriosa, very dark red; N. Robinsoni, purplish red, yellow ground colour; N. Ellisiana, brilliant carmine purple; N. lucida, rosy vermilion; N. Marliacea ignea, rosy purple; N. Marliacea flammea, amaranth red; N. Marliacea rubra punctata, deep rosy purple; N. Aurora, rose yellow and orange.

Among introductions of 1901 (French novelties), mention is deservedly made of N. atro-purpurea, flowers large, of a deep brilliant crimson, sepals of the same dark rich colour, with stamens of bright yellow, and N. Arc-en-ciel (rainbow), leaves variegated with rosy tints, flowers salmon white. This variety answers this description grown under glass early in the season, but when planted out the leaf is of a reddish tint, and flower very poor. N. colossea is described as enormous, both leaves and flowers, the latter flesh colour, but with us it is insignificant. N. gracillima alba is a pure white, and N. odorata Caroliniana no better than our N. odorata. These three varieties were a great disappointment, and inferior to existing varieties.—(WM. TRICKER, in "The Florists' Exchange.")



Late Chrysanthemums.

I have noticed each year in the pages of the Journal a desire for knowledge by private gardeners, of the best late-flowering Chrysanthemums. Being a grower for sale myself, it is very necessary that I should be able to supply Chrysanthemums at Christmas and during January and February, when good flowers on long stems are not so very plentiful, and therefore command better prices. Niveus for Christmas we cannot yet do without. I have not yet (January 9) finished cutting blooms. Of Sunshine, L. Canning, and Red Canning I am sending blooms for your inspection. I find them excellent for our purpose. I have no doubt there are plenty more varieties of recent introduction, but I have yet to find better than these good old standard sorts, and can recommend anyone who desires a supply of flowers during January and February to grow a good batch of them.—A. BLAKEY, Howden, E. Yorks. [The blooms were fresh and beautiful.—ED.]

Chrysanthemum Niveus.

I see in an interesting note from "Saynor," that he is rather surprised to find I did not include Niveus in my list of Christmas Chrysanthemums. This arose from two causes. In the first case all my blooms of this variety were cut early in December, and in the second case I have ceased to regard it as a Christmas variety, but rather as an early December sort. But I have no doubt my particular case is hardly on all fours with the majority of instances, for all my blooms are cut for market purposes before they are fully developed, and I find Niveus gets very soft in the floret before Christmas week, though thousands of blooms are held back for the festival by some of our best market growers, and no doubt in private gardens, where they have been grown as cool as possible, they make a good Christmas display; but if I dare presume to offer "Saynor" a little advice, it would certainly be to add a few of the other white kinds to his collection for this particular season, and I am sure he will not regret it.—AN OLD CONTRIBUTOR.

Variety at Chrysanthemum Shows.

A well-written letter in an American trade journal contains such expressions as the following, which seem to apply almost with greater force to growers here than to those for whom the letter is directly intended. The writer is of opinion that "variety at shows is absolutely necessary, both as to sorts and arrangement. But it must be acknowledged that the big blooms are a great drawing card with the public; they have very little interest in the fact of whether the variety is hardy or easy to grow to perfection. They do know, by personal experience, that it is very easy to produce small blooms, but they dearly love to stand and wonder over the big ones; and no one may blame them, for in a hall, or church, or exhibition, these blooms are appropriate and beautiful. Further, as to variety and novelty at the shows. The English are beginning to break away from the flat boards, much to their own enjoyment. In my own mind, I feel as if we ought to break away—if it is at all feasible—from our long tables draped in white, with their rows of vases side by side, like soldiers on dress parade. That was all very well when the Chrysanthemum was a wonderful novelty; since then people have become familiar with fine Chrysanthemums by everyday use of them in their season; they decorate their homes with them; they know how they ought to be arranged to produce the best effect. If we could take seventy-five blooms, three in a vase, and arrange them in a grotto, mound, or flower-bed form, completely hiding the vases, a very beautiful picture might be produced that would delight the beholder. Points should be allowed for garniture and for arrangement. Immediately the criticism is made that the judges' work is rendered extremely difficult. It certainly would be, for in addition to 'counting his points,' as usual, he would have these other items to estimate; but, my dear critic, these shows ought not to be arranged for the convenience of the judges, nor, primarily, for the satisfaction of the exhibitors. The first object of a flower-show is to carry the public away with enthusiastic admiration of the beauty of the flowers and make people wild to possess them on all sorts of occasions; to give the people ideas as to fine combinations, and suitable embellishing material. The public has spoken of its weariness of the former; let us give something of which the people have not grown tired. Show them sprays of pompones, Anemones, tight little Chinese incurves, feathery sorts, singles, and oddities in general; in short, give them

novelty in variety; but growers will not do this unless schedules are made to cover such accessories. Human nature as a worker is very prone to fall into a rut; it does not like the trouble of formulating new ideas, still less of carrying them out; and yet this same human nature as a consumer for ever and ever cries out for novelty, whether in architecture, furnishings, dress, food, or flowers."

A Collection in South-west London.

On page 61 there is an illustration of a collection of Chrysanthemums such as will delight the eyes of fanciers and many others who do not so class themselves, yet who largely grow this necessary autumn and winter flowering genus. The collection is that of G. R. Peerless, Esq., Park Hill House, Park Hill, Clapham, S.W. This is one of the very old houses of this district of London, of which old type very few are now left.

There is no need on our part to praise the grand quality of the plants and the blooms they carry. The conservatory, he tells us, is very well adapted for blooming the Chrysanthemums. It certainly has a handsome internal appearance. Mr. Peerless also sends a list of the chief varieties he grows, which are as follows:—Left side: Alice Byron, Marquis de Venosta, W. R. Church (a splendid variety now well known), Calvat's '99, Mrs. J. Bryant, Mrs. Barkley, Florence Molyneux, Mutual Friend, Mrs. White Popham, Australie, Edith Tabor (still a first-rate variety and great favourite), Mr. T. Carrington, Lady Byron, and Mrs. Coombes.

The right-hand side is filled up with cut-backs such as Lady Selborne (used so finely in the house at Battersea Park), James Salter, Source d'Or, and the more recent Mrs. Wingfield, a beautiful pink sort. The variety that gave the greatest effect, however, was the single-flowered Mary Anderson, and which is seen so distinctly in the illustration. Such a fine picture at this late season must inspire the growers, and add fire to the waning fever. Mr. Peerless returns thanks to "An Old Contributor," who, on page 39, was kind enough to name sixteen late Chrysanthemum varieties which are still blooming with him, and promise flowers till the end of this month.

Seasonable Hints on Vine Borders.

Throughout January the pruning and clearing of Vines and dressing the borders, are important items of work in hosts of gardens, and all who desire to meet with continual success in Grape growing cannot afford to neglect this annual overhauling of the borders. I am convinced, however, that at one time many cultivators placed too much faith in the yearly coating of fresh compost for being capable of "putting Vines right for the season," no matter what their condition may have been. In some cases I have seen layers of soil piled on to the border each year, notwithstanding the fact that very few roots were visible, and it is perhaps needless to point out that top-dressings given under such conditions are not likely to benefit the Vines greatly. The great point to act upon is to remove the old soil until plenty of roots are found, and then surround them with fresh and good compost.

Again, the surface of a border seems a perfect network of fibrous roots, then, of course, it is only desirable to loosen the soil lightly with a fork before adding fresh soil. In other instances, however, it may be necessary to remove 5in or 6in of old soil before the roots are reached, but when Vines are in good condition surface roots are generally plentiful enough. During recent years the use of

Suitable Chemical Manures

has done much to promote surface root action, and where they are regularly employed one does not often find the cultivator complaining about the difficulty of securing good results. Under the old method of using dung alone for feeding Vines it was necessary to bestow a good deal more attention upon keeping the roots in order than is the case now. The enormous increase in commercial Grape growing which has taken place in this country during the last ten years has, I think, been largely brought about by the splendid results obtained by using chemical manures, which has tended to simplify the whole system of culture. Let us hope that the anticipated festivities in connection with the Coronation will have the effect of hardening prices, for of late they have been so low that the margin of profit must in many cases have been very small indeed.

The question now arises as to what manures are the most suitable for the purpose, and I may say that there

are several good ones advertised in this Journal which may be depended upon to give good results. In many private gardens where only small quantities are required, it is convenient to buy them ready mixed, but for commercial purposes, and in other cases where strict economy has to be studied, the cultivator should mix his own manure, and thus secure the various constituents at their proper unit values. I have often used mixed manures with the best results, but I obtained equally good results last year at less cost by mixing my own, and the following is a mixture I can confidently recommend:—Fish guano, 8lb; super-

adding a shovelful of soot to each barrowload. Of course the soil should be in a fairly dry condition, so that it will work freely without becoming sticky. If the loam is somewhat light it is wise to tread it moderately firmly, and finish off, loosening the surface with a rake, but when fairly heavy no treading is needed, it will usually go down close enough. In the case of inside borders, a thin layer of horse droppings helps to afford additional food, as well as to prevent the surface from becoming too close and hard. On outside borders a thicker coating is beneficial.

Before concluding, I want once more to draw attention



CHRYSANTHEMUMS IN LONDON: The Collection of G. R. Peerless, Esq., Clapham.

phosphate, 6lb; sulphate of potash, 1lb; and sulphate of ammonia, $\frac{1}{2}$ lb. Mix all the ingredients thoroughly, and use at the rate of 4ozs per yard before applying an inch or two of fresh compost. In the case of borders inclined to be wet and sour, use basic slag five parts and nitrate of potash two parts. Then, after the Vines have started into growth, give one dressing of nitrate of soda, $\frac{1}{2}$ oz per yard.

Light Dressings Advised.

A suitable covering of fresh compost may be formed by mixing six parts of good loam with one of horse droppings,

to the unwisdom of placing too thick a layer of soil on the roots during any one year, because in some cases 5in or 6in of old soil has to be removed. It is often the practice to lay on a similar thickness of fresh soil to bring up the border to its original level. The result frequently is that the roots do not work into it, whereas if only a couple of inches of fresh soil is added, a network of roots is found in it by the following season, and that, according to my experience, is one of the secrets of keeping Vines in a satisfactory condition. Thin layers of soil and active roots go hand in hand; bury roots deeply, and they either go deeper still or further afield, if they do not become "inactive."—H. D.



Jocular Horticulture.

I am glad to see "B.'s" reference to "a tendency to levity," in horticultural publications in your issue of December 26. I could name one paper in particular which is spoilt, to my taste, by laboured, but quite unsuccessful, efforts to be funny. Most readers of technical papers, I presume, read them in the hope of gaining information, and the less it is wrapped up in attempted smart or jocular verbiage, the better busy men appreciate it. Nothing, I think, is to be said against a page or more of a horticultural paper being devoted to items of light reading, including humorous extracts. All that I object to is the mixture of jokes and technical information.—ANOTHER "B."

Things I Should Like to Know.

Under this somewhat remarkable heading your versatile correspondent, "Ignoramus," puts a few pertinent questions before the readers of our Journal which I have no doubt will be read with interest by all concerned in the subject of fruit growing. I feel equally sure that the replies to his queries will be varied; at the same time, I do not think many of your readers will differ upon the question of flavour in the Apples named, for there can be no two opinions on the subject. Undoubtedly Cox's Orange Pippin holds the premier position for flavour in this country, while Blenheims make a capital substitute. At the same time, I do not think "Ignoramus" should pit Newtown Pippin in comparison with either, and really, they do not seriously compete with each other—at all events, not nearly to the extent that many people suppose. This Apple must be regarded as the best variety we import for flavour, but as the growers in other lands are handicapped by having to send us Apples with thick skins, so that they will stand the packing, and this is the chief complaint we can make against the variety, no matter where it comes from.

Now, Mr. Editor, I approach "one of those things I should like to know;" that is, where your correspondent saw Cox's Orange Pippin selling at 3d. per lb during the present season; or Newtown Pippin making 6d. per lb? If the former variety were retailed at such an absurd figure they must have been a very poor sample. To my knowledge in December they were making 10s. the half sieve, or £1 the bushel, and this for average Kentish samples, while I saw good samples in punnets offered at five fruits for 1s. Mind you, then, much larger samples of Newtown Pippins were being sold at the same shops at 4d. per lb, so you see, Mr. "Ignoramus," the Yankees were not getting things quite so much their own way, and when the packing, freightage, brokerage, &c., was all settled up, the figure returned to the actual grower would perhaps startle your correspondent.

It sounds sentimentally patriotic just now to recommend planting up 100 acres of this variety; in fact, there is just, perhaps, a little suspicion of "New Year" or "Boston" about it. But I do not think we need treat the matter seriously, for nobody is likely to do it. No, sir, we have already learned not to put all our eggs in one basket, for the climate of this tight little island has taught us better than this. Again, it would not be an easy matter to find a neat little "break" of 100 acres suited for this variety, and we can, I think, safely add that we should not find the trees at short notice, for such has been the demand, and still is, that the variety in question is always more or less scarce. So we may rest contented that "Cox's" have been planted in thousands during the past decade, and will soon be felt in our markets if they have not already done so.

"Ignoramus," in asking whether the importations of Apples are likely to become less in the future—I say decidedly not. They will fluctuate, as they do at present, according to our home supply; last season there was a serious shortage in our Apple crop, and the imports will rise accordingly. When we have plenty of our own and prices rule low, the foreigner finds it only pays him then to send his tip-top samples. I think we should be quite safe in saying that our importations will increase, as will our home supply; but whether this will be to the advantage of the grower in this country remains to be seen. But

one thing is certain—half the produce from old, worn-out trees and inferior sorts will not pay the grower of the future, and the sooner we realise this the better it will be for all concerned.

The question as to forming fruit growing companies on a large scale opens up not exactly a new field, but one that has been tried partially, and I regret to say has not proved a success. though that is no reason why others should fail, for new concerns would be able to avoid the pitfalls that the older companies found so fatal. I am quite open to conviction, but I cannot see any very big dividends that would accrue from such concerns; at all events, until we get better prices for our produce and are able to cut down expenses considerably. I meet a good many of our large fruit farmers in the course of a year, but I have not yet found the man who was making a fortune by fruit growing alone. The whole question is of such importance that it cannot be dealt with by a few persons each expressing their particular views. At the same time, the more light there is thrown on the matter the more clearly shall we see through it.—ESSEX.

The Uncut "Journal."

A bulky number of the Royal Horticultural Society's Journal has reached each Fellow of the Society, containing 443 pages of reading matter, all uncut! I estimate that to cut all these pages would occupy half an hour, in which time, I suppose, the whole edition could have been cut by machinery, at a trifling cost to the Society. As most of the Fellows are busy men, would they not like the cutting to be done on the co-operative principle, instead of each wasting half an hour on the work?

The late Mr. H. M. Jenkins, Secretary of the Royal Agricultural Society, was spending a day, some years ago, with one of the members, a farmer of some pretence to cultivation. On a bookcase Mr. Jenkins was pleased to see a goodly row of numbers of the Journal of the Society, which he edited. But, on taking one down, he found it uncut, and further investigation showed that all the volumes were in that condition. This taught him a lesson, and he said to his friend: "Never in future shall a member of the Society have the excuse of an uncut Journal as a reason for not reading it." After that time the Journal was always machine-cut.

In my opinion it is decidedly behind the times to send out any book or magazine with pages uncut.

No doubt if the Secretary of the Royal Horticultural Society were to visit a few of the Fellows, he would repeat Mr. Jenkins's experience. For one, I never cut any other parts of the Journal than those containing articles which, from their titles, appear likely to interest me. Probably I miss a great deal that is worth reading. Will not some other Fellows join me in appealing to the Council to order the machine-cutting of all future numbers of the Journal?—I am, &c., "A FELLOW."

Gardening Charities.

I was much interested in reading your letter on the Gardeners' Royal Benevolent Institution in last week's Journal. I have been a gardener for nearly twenty years, and I am of the opinion that the reason why these charities do not receive the support they ought to from gardeners and others engaged in horticulture is because their claims are not brought prominently enough before the gardening community. This question of gardening charities crops up every year about the time of the annual meeting. We read the report of the meetings; the good that has been done, and also the regrets that more might have been done that is not, and it seems to me that all enthusiasm wanes until next annual meeting. I venture to say, except the members of these charities, there are few gardeners conversant with the rules and privileges pertaining to them. This is not as it should be. I think the affairs of the different societies are confined too much to one centre. I agree with you that horticultural societies should take this matter up, and I would propose that the secretaries of the different charitable societies should furnish a statement of all rules and regulations pertaining to his own institution to every horticultural society in the British Isles, and ask the chairmen of the different societies to bring this question up at the beginning of meetings, and members be asked to give a small amount. This is a question that requires to be brought to our very doors. I think your estimate of gardeners is very modest, especially if you also include under gardeners. I think head gardeners would have no difficulty in getting 1s. from each assistant under their charge. This question of garden charities is, in my opinion, ripe for discussion in the horticultural publications, so as to bring it home to each and all the axiom, "It is more blessed to give than receive."—W. KEAY, Fife.

The Seed List.

To many, and especially the younger gardeners, this is a text that will require a good deal of thought and exercise for the mind for the next few weeks, the greater difficulty being not a selection to suit the garden and gardener, but the means allowed wherewith to do it. This in so many cases is of so limited an extent that there is much difficulty in getting as much novelty as is good for the garden and the owner of it.

That there is a gain in obtaining some of the newer selections of vegetables and flowers requires no emphasis, because the aim of the hybridist is to obtain by inter-crossing or selection something better than that already existing, and this being so, the purchaser must be the gainer in some, if not in every case, by the introduction of the better class.

It must not be denied, however, that some of the so-called novelties are only names for older existing kinds, but seedsmen with a good reputation at stake are usually to be depended on for integrity and honesty of purpose. Much bewilderment comes from a perusal of the many seedsmen's catalogues now distributed, most of them temptingly placing their novelties before their patrons in large type, well-executed illustrations, and in generously worded testimonials from those who have proved them. These latter are a good help in deciding on an investment in new varieties. Catalogue descriptions place all their novelties in the better light.

Peas.

With the leading seedsmen Peas are given the most prominence, both in detail and variety. To the inexperienced, and to those who require but a small supply of seed, the order for Peas gives the most trouble of all, because there is such an inexhaustible list to choose from. Some of the old varieties still remain favourites with many gardeners, and are still looked upon as types of good quality—British Queen, Veitch's Perfection, and Ne Plus Ultra, for instance, give ample demonstration in the matter of quality and size of Peas, though they are less pleasing to the eye in a growing state compared to the modern exhibition pod. In Peas it is essential to stand by those which have been found to do well in previous summers, introducing some changes by way of testing qualities against these standard sorts for future guidance and prospective gains. Last summer I was so impressed with the prolific characters of some of the dwarfier kinds of Peas that for early sowing I had made resolutions to extend these, to the exclusion of taller Peas. Little Marvel, Chelsea Gem, Sutton's Excelsior, Daisy, Dwarf Defiance, and Bunyard's Earliest Dwarf Hardy are some that can be selected with confidence. Their height is from 1½ft to 2ft. The advantage I find from these dwarf Peas is that they can be grown without the aid of tall stakes, more on the same ground, and with less labour. What they need to be profitable is good, deeply worked, and well-manured land that is fresh to Peas, for it is a well-known fact that this crop suffers more than any other from repetition of planting. Daisy is perhaps the largest podding variety, but Little Marvel is a marvel indeed, both in profusion and quality of crop. Ours went to 2ft, though the catalogues gave it as a 15in Pea, and pods could be gathered by the bushel from a comparatively small area. Among taller sorts, Early Giant and Early Morn. both very similar, are excellent in every respect, and so is the older Stratagem, Criterion, Sutton's Prizewinner, Gradus, Chelsonian, Alderman, and Eureka. Latest of All, Autocrat, and Late Queen are some that can scarcely be surpassed, if equalled, for the latest gathering. Small birds and mildew are troubles that must be reckoned with in this last section; both very difficult in some seasons to deal with effectively.

Potatoes

should stand before Peas in importance, as they form the mainstay of the midday meal the whole year through. My favourites for the early borders are Harbinger, an early round variety, Ringleader, May Queen, and Sharpe's Victor. The Sirdar, too, is a very good Potato, its great fault being the precocity of sprout. They need very careful storing, and should be kept in a light place, otherwise they become active and spoilt before planting time comes round. Ninetyfold I have not tried as a first early, its growth and character indicating more that of a second early. It has a vigorous constitution, and in cropping powers it is well named. On our soil I find none to surpass Snowdrop as

a main crop, though Syon House makes a good companion. Unless required for exhibition purposes, there is no gain in the adoption of infinite variety; it is better, all points considered, to grow fewer sorts in greater bulk, and particularly of those adapted to the soil and situation.

Beans

of the French and Runner sections are, like Peas and Potatoes, steadily gaining in numbers, no less than two dozen may be found enumerated in some catalogues, all more or less good. Veitch's Progress is my favourite for the earliest sowings; Earliest of All, too, is a good Bean, but rather tall. Ne Plus Ultra, when well selected, is still one of the best varieties, either for forcing or outdoor growth—it is dwarf, productive, and early. For later use Sion House is very good indoors and out. There is a gain in earliness in the climbing French Beans over the Runner, and in some soils they are exceedingly productive and long lasting; but these are not the desirable characteristics of every garden. Some are very successful in forcing them, and claim a larger and longer successional crop. Veitch's Climbing, Excelsior, Tender and True, and Sutton's Epicure are a selection of the best. For exhibition purposes Sutton's Prizewinner stands in the front rank of the Scarlet Runners; for the garden and house the Giant White Seeded is an admirable Bean, vigorous in growth, large in pod, early, and free bearing. Hurst's Monarch, Wiltshire Giant, A1, and Best of All are other good kinds.

Cauliflowers

form an extremely important summer and autumn crop. Veitch's Extra Early is first-rate, as is also Sutton's First Crop, Erfurt Mammoth, Magnum Bonum, Mont Blanc, Autumn Giant, and Pearl. Erfurt Mammoth is one of the best for autumn sowing, and Mont Blanc last summer stood the tropical weather and drought uncommonly well, which could not be said of some others growing in the same beds. The early and later selections of Autumn Giant need but little praise; few gardens throughout Great Britain are without them in their season. Summer Cauliflowers, however, are a speculative crop unless they have deeply worked, well-manured ground, and frequent help from the water-pot. The autumn sowing of Cauliflowers is not so much practised now as formerly, the early forcing section affording heads as early, and with more certainty.

Broccoli

is of equal, if not greater, importance than Cauliflowers, their season extending from November until June is far spent. Self-protecting is a universal favourite for the autumn and early winter; Winter Mammoth follows well, and is good and hardy; Spring White and Snow's are other good successional, the latter need be of a good selection or it is disappointing. Vanguard is a good reliable sort for later cutting, keeping up a succession over a long time. Dickson's Defiance and Early Spring are also fine Broccolis. Maincrop, Model, Late Queen, Dickson's June King, Carter's Champion, Miller's Dwarf, Leamington, Sutton's Satisfaction, and Standwell are a few we have proved to be reliable for carrying on a continuous supply of heads over a long season. Of

Brussels Sprouts

one can scarcely make a mistake, for, unlike Broccoli, there is not such a legion in names and variety, yet abundance to suit every purse and purpose, and the same may be said of Beetroots, Winter Greens, Asparagus, Leeks, Celery, Parsnips, and Marrows. Turnips are numerous, but all more or less good; the White and Red Milans still hold their own for early pulling, as also do Snowball, Dobbie's Model, and Veitch's Red Globe. Sutton's White Gem is a good addition to forcing varieties. Orange Jelly and Sutton's Perfection are typical representatives of the yellow-fleshed Turnips available for those who prefer them. Of

Carrots

there are a good many, but as there are three different sections—the Earliest Horn, Stump-rooted, and Intermediates—a selection is not so difficult. For exhibition purposes the Intermediate retain their popularity; for garden use alone I much prefer the Stump-rooted, as in these there is less waste, less labour in lifting, and a shorter season of growth needed, three items often worthy of consideration. Parisian Forcing, Early Nantes, and Early Gem are all good for the earliest batches. Guérende, Veitch's Model, Market Favourite, and Champion Scarlet Horn are good for summer and winter use. All high class seedsmen have special selections of Intermediates.—W. S.



The Rosarian's Year Book, 1902.

One of the annual publications of the National Rose Society, the "Year Book," bearing its messages of experienced counsel, its tale of good work accomplished, and hope for the years advancing, from a synaxis of the society's ardent workers, is ever awaited with interest by each of the members. The Rev. A. Foster Melliar, in his straightforward and interesting manner, has a considerable amount of news to tell about the famous grower of Tea Roses, Mr. O. G. Orpen. Being a strong grower of these himself, and having frequently opposed Mr. Orpen in the open competitions at country and metropolitan shows, the writer draws attention to the very points that rosarian exhibitors prefer to hear of. "Mr. Orpen's methods are strictly business-like," says Mr. Foster-Melliar. "If any Rose plant is not thoroughly vigorous, strong, and healthy, and likely to yield him the best returns, up it comes, and in goes another fresh, strong one in its place. This is the way to do it, and win first prizes; the way not to do it and come in a bad second is to do as I do—keep on a thousand or two of nearly worn-out or unhealthy plants, or superseded varieties, because they are alive, and one sentimentally wants to give them another chance." Here we have advice clothed in humorous expression.

Referring to the precarious and fitful existence for some years of the Colchester Rose Show, Mr. Melliar affords sound reasons how this came to be. He says, "A Rose show in a country town is dependent for its attractions on the Roses and the band. It could never be difficult for residents in Colchester and the neighbourhood to gain permission to see the finest Roses in the world growing in the gardens of leading nurserymen, and, being a garrison town, military bands were naturally fairly familiar to the inhabitants." And now Mr. Orpen, by his energy, patience, and business methods during his capacity as secretary since 1895, has overcome the foregoing difficulties, and the Colchester Rose Show now holds its own as one of the best managed in the kingdom. Mrs. Orpen, too, receives encomium for her cleverness in arranging vases, bouquets, and sprays of Roses. "Not only are her exhibits a source of admiration, but of actual education."

The Poet Laureate breaks into song in Roses, and fills three pages with his Muse; after which Miss Jekyll's pen has urged the greater use of "Some Garden Roses." "We want the Damask, and Provence, and Moss, and old Pink China in beds and pretty grouping; the neat habited American lucida and its charming double variety; and the Scotch Briars, so good on banks of poor soil, and the rest of the old favourites for some use or other." "No kind of Rose is better for massing in exposed places or on rough banks than the Japanese rugosa. It is free and hardy in its vigorous, bushy growth, and will do well even in London." "The most remarkable development of all," continues Miss Jekyll, "and the one that gives the strongest evidence of the lately enlarged influence in practical gardening, is the increase in the numbers of the rambling Roses and the single kinds of free growth. These comprise the good old Roses that come within the classes known as Ayrshires, and semper-virens, with the addition of those derived from the Musk Roses and the Himalayan Rosa polyantha, and R. brunoniana."

"Every new garden that is being laid out is providing for a pergola or arbour or flowering screen, where these beautiful growths can be displayed, while older gardens are being carefully looked over to find the right places for the planting of some of the wealth of material that only awaits careful choice and judicious use." Miss Jekyll advocates the employment of Scotch Briars and Wichuriana Roses; also Roses for hedges, for banks, and for various uses in naturalisation.

The doings of the National Rose Society during the past successful year are reviewed by Mr. D'Ombrian, while following him comes Rev. J. H. Pemberton, who briefly discusses the new Roses of 1900-1901. Mr. Mawley concludes with a highly valuable and interesting paper on the "Weather of the Past Rose Year"; but Mr. B. E. Cant has a prior article on "Stocks and their Influence." We should like to comment more extendedly on what is undoubtedly a most valuable contribution to the "Year Book," but we have already gone much beyond our usual limits. In his weather notes Mr. Mawley mentions a fact that must seem to many as being remarkable, that for over twenty years he has kept an account of the rain which fell during the day-time, separated from that deposited at night, thus furnishing a splendid record of care and persistent adherence. We must not omit to note Mr. George Paul's letter on the "Development of New Types of Roses." The "Year Book" must, indeed, be very useful as an index to the immediate past in rosarian annals, and as a guide for future accomplishments. Much, very much, has yet to become known to us, before we can claim to have got right away from the merely empirical culture of Roses.

Roses in Far Tasmania.

The interest in Roses is eternal. They pervade nearly the whole world—and we in England think we love them best of all. But even in far Tasmania—the old Van Dieman's Land—our finest Roses have found a home, and there they flourish. This week a couple of photographs from the "Weekly Courier" (Launceston, Tasmania), together with a letter and the newspaper itself, came to us from one who signs himself "An Amateur." Unfortunately he debar us from publishing the interesting comments he has made, but promises to contribute notes of the Rose show next season, and of the Cactus Dahlias, which will flower there in the month of February.

The photographs of the Rose collections represent excellent flowers. Some are not up to the highest exhibition type, but others again, and these are in the majority, are almost perfect. Marquis Litta is here, and very fine; Josephine Malton (T) is beside it. Another photograph reproduces the twenty-four leading blooms staged by a Mr. W. F. Petterd. The following are their names:—"First row: Robert Duncan, La Boule d'Or, Helen Keller, A. K. Williams, Victor Verdier, Prince Camille de Rohan. Second row: Her Majesty, Tom Wood, K. A. Victoria, Mrs. Sharman Crawford, Gloire Lyonnaise, Mademoiselle Marie Finger. Third row: Ulrich Brunner, Maman Cochet, Général Jacqueminot, Rev. Alan Cheales, François Michelin, Paul's Early Blush. Fourth row: Captain Christy, Gloire de Ducher, La France, Caroline Testout, Margaret Dickson, Triomphe de Pernet Père. This success, according to the newspaper report, is only Mr. Petterd's latest triumph in this direction. As an exhibitor of flowers he has been singularly successful for some years past, and in 1899 secured the much-coveted Gold Medal of the National Rose Society of Great Britain. In his garden he has about 600 Rose bushes and 300 distinct varieties, comprising dwarf and half standards, self-rooted bushes, and climbers; whilst the so-called Hybrid Perpetuals are cultivated to a degree of perfection rarely seen in an amateur's garden. Hybrid Teas are the special feature, the specimen blooms of which are a source of constant admiration on the part of those who are privileged to see them."

It was only last week (January 4, 1902) that our contemporary, the "Gardeners' Chronicle," in a leader on "The Rose of Merry England," said: "When the Rose was adopted as a national emblem, Canada, Australia, Tasmania, and New Zealand had not been discovered; and, except in Canada, there is not a native Rose in either Colony; nor is there is any part of South Africa, the West Indies, Mauritius, or Ceylon. . . . When we get a federated Greater Britain, it is clear we shall have some difficulty in fixing upon some flower that is common to all the component parts." This was expressed in relation to the choice of a suitable Coronation Flower, and also in reference to America's difficulty in settling on whether the Carnation or other flower will be selected as their national emblem. But if our Colonies can succeed in establishing some, if not all Roses (and except for the West Indies, the lower parts of Ceylon, and parts of South Africa the other countries are mostly suitable for their culture), "the Rose of Merry England" might still serve for each and all. Otherwise we must fall back on the Scottish Thistle! For, like the men of that rugged land, Thistles seem to gain a footing everywhere.

We may be allowed to conclude our remarks by a further extract from the Tasmanian paper, which describes Mr. Petterd's additional achievements: "About ten years ago he commenced the work of cross-fertilisation amongst the stately Gladioli, working with the celebrated strains of Lemoine, Childsi, Gandavensis, and Nancianus. The result has been the appearance of large and distinct types remarkable for size and brilliant colour. It is estimated that there are now growing, soon to burst forth into rich masses of bloom in bewildering variety, no fewer than 700 sorts, the total number of corms in the ground being at least 3,000. To speak of spring flowers in the height of the summer season appears almost out of place, but those who have viewed the rich masses of chaste and graceful Daffodils growing in Mr. Petterd's garden, or have seen collections of his cut blooms, have good reason to know what a very important part these increasingly popular flowers play in the annual history of this gentleman's grounds. When it is seen that there are 300 varieties and about 15,000 bulbs, it goes without saying that all classes and types are represented, from the older varieties right up to the recent productions of the now famous Engleheart. Mr. Petterd himself has for some time been engaged in the work of developing new strains of the Daffodil, and doubtless will be able before long to point to some entirely new forms as the result of his patience and skill. While the Daffodil, Rose, and Gladiolus are the special objects of attention, others of minor importance have a place in this city garden, which, at the present time, displays a perfect wealth of bloom of these. Hellebores, Pæonies, and Cactus Dahlias have been assigned places of honour only second to those already described. The flowers they in their turn yield are an eloquent testimony to the care and attention they receive, while the service they render is no less essential than that on the part of those to which attention was first drawn, namely, in providing so far as possible an unbroken succession of blooms—perpetual links in an endless floral chain."

Cyclamens.

These are very useful plants, and of all plants grown none more fully repays for time and trouble than a good batch of Cyclamens. They are very useful, either for plants in a house or conservatory or for supplying cut bloom for table decoration. When used in vases of water it will be found advisable to slit the stems about 1 in, then the blooms will keep fresh for much longer period. Propagation is practised by sowing the seed at the end of August or the first week in September. A mixture of equal parts loam and leaf mould and a good sprinkling of silver sand is a suitable compost. Having made it firm and level, place the seeds 1 in apart, then cover not more than a 1 in deep, affording sufficient water to thoroughly moisten all the soil, place them on a shelf near the glass in a house having

afterwards is to keep the plants in a light airy pit, avoiding cold draughts at all facing north, shading them from bright sunshine.

Cyclamens delighting in dewy nights, it would be found an advantage to the plants to remove the lights off on fine nights. Spray the plants two or three times daily. The plant should be housed towards the end of September; manure water should be afforded three or four times weekly and soot water occasionally. Spray between the pots when first housed and slightly overhead once or twice daily, according to the weather. It will keep the plants healthy and clean. The plants are subject to green fly and other insect pests. None must be allowed to obtain a footing; if so, the leaves will curl and disfigure the plants. Fumigating will destroy the fly. If red spider is on the plants sponging the leaves with softsoap water is a good remedy; afterwards syringe the plants well with clear water.—W. JONES, Stoneleigh Abbey, Kenilworth.



KENNEDYA (MARRYATTÆ) PROSTRATA, R. Br.

A SPRING-FLOWERING AUSTRALIAN WOODY TWINER, SUITABLE FOR A GREENHOUSE. THE GENERIC NAME WAS ADOPTED IN HONOUR OF KENNEDY, OF THE FIRM OF MESSRS. KENNEDY & LEE, IMPORTANT AT THE END OF THE 18TH CENTURY.

Kennedyya prostrata (R. Br.).

a moist atmosphere and a temperature of about 60deg. Shading will be found necessary until the seed have germinated. By the end of November they will be large enough to pot into thumb-pots, using a similar mixture. Great care should be taken in potting not to pot them too deep, or the corms will decay. Placing them in the same temperature, keeping them near the roof-glass to prevent them becoming drawn until they are established, when they should be removed into a house having a temperature of about 50deg. or 55deg. The next shift will depend on the size pot in which they are to flower: in a 60-size pot will be found to answer well for the present shift, and a 48 or 32 for the final potting, which should take place in June.

At this shift a compost consisting of loam two-thirds, leaf mould one-third, with the addition of a little silver sand and bonemeal, the potting should be carried out with moderate firmness and not too deep, as the roots proceed from bottom of the corm and good drainage must be insured. The chief thing

As a genus, the Kennedyas, with their flowers possessing the characteristics of Leguminosæ, are the exception in a garden rather than the rule. *K. prostrata* (or *K. Marryattæ*, as it is known under in gardens) flowers as freely as any of the other species. It is admirably suited for a greenhouse, and can be planted either in a border or in a pot. The border treatment, according to our experience, is preferable for *K. prostrata*. The branches should be trained to the rafters of the roof, and when the bright red almost scarlet coloured flowers are freely produced it has a very pleasant appearance. Plants of the above are occasionally to be seen flowering in the greenhouse at Kew. The usual season for blooming is in April and May, but this varies, and March sometimes sees the plants in flower. They last a long while in a fresh state. A fibrous loamy compost, with the addition of good peat and sand, is found a suitable rooting medium.

Societies.

Royal Horticultural—Drill Hall, January 14th.

A very great many of the visitors to the Drill Hall on Tuesday last were agreeably surprised to find so bright an exhibition as that then held. The day was cold, but very clear and agreeable. At the afternoon meeting seventy-one new Fellows were elected—surely a good start for the new year?

Orchid Committee.

Present: James O'Brien, Esq. (in the chair); with Messrs. Hy. Little, H. Ballantine, E. Hill, Frank A. Rehder, N. Bilney, H. A. Tracy, G. F. Moore, T. W. Bond, J. W. Odell, W. H. White, W. Boxall, F. Sander, de B. Crawshay, H. J. Chapman, J. Wilson-Potter.

Messrs. B. S. Williams and Son, Upper Holloway, N., staged a showy set of Cypripediums, including C. Sallieri aureum, C. Harrisianum, Williams' variety, and C. Dauthieri striatum, dark chocolate. They also had finely flowered Lycaste Skinneri and Calanthe Veitchi alba.

A group of Cypripediums were sent from W. Shuter, Esq., receiving a Silver Banksian Medal; Messrs. Veitch had also a number of choice species, and hybrids of various Orchids.

Floral Committee.

Chrysanthemums in vases were attractive as staged by Mr. J. W. Springbett, Holly Nursery, Cheshunt. The variety was new to us, and named Buff Queen—a pale primrose cream with purplish basal petals. It seems to have something of Etoile de Lyon or of La Triomphante in it.

A bed of "a perpetual flowering scarlet Zonal Pelargonium," named Beauty, was brought forward by Mr. George H. Towndrow, of Malvern Link. Visitors to the great Shrewsbury Show know the exhibitions made by this grower.

Messrs. T. S. Ware, Limited, Hale Farm Nurseries, Feltham, London, opened the new year with a bright display of hardy plants. The collection included flowering plants of Colchicum hydrophyllum, Crocos ancyrensis, Primula Forbesi, Gentiana acaulis, Lachenalia pendula, Shortia galacifolia, Nerine Manselli, and other bright subjects.

Messrs. Eggett and Son, Thames Ditton, Surrey, showed photographs of their artistic rockwork, dripping-wells, caves, alpineries, &c. Mr. Drost, of New Road Nursery, Richmond, staged a very large bowl filled with long sprays of white forced Lilac, very fragrant and beautiful.

A magnificent exhibit of finely cultivated Begonia socotrana, bearing tall, yet stout and broadly expansive inflorescences, with large leathery foliage, dark green, glossy, and altogether very handsome. The flowers were deep and richly coloured. B. socotrana is well known as one of the parents of Begonia Gloire de Lorraine and of Veitch's hybrid winter-flowering Begonias. The above exhibit was from Leopold de Rothschild, Esq.

Mr. W. J. Godfrey, of Exmouth Nursery, Devon, quite surprised the visitors by a splendid exhibit of an entirely new white Christmas and January flowering Chrysanthemum. The flowers were from seedling plants—large, solid, good in colour, with finely waved petals. As bush plants for supplying late cut flowers, the novelty appears to have the most desirable qualities. Its name is "Winter Beauty."

Messrs. J. Veitch and Sons, Limited, Royal Exotic Nurseries, Chelsea, on this occasion staged Witch Hazels (Hamamelis japonica zuccariniana and H. arborea); also Cotoneaster pannosa, with terminal clusters of Rowan-like berries coming out all along its branches. They also had a beautiful display of two novelties—Moschosma riparium with Lilac-tinted Spiræa-like flowers; and the bright blue Coleus thyrsoides. There was also Exacum Forbesi, dwarf and floriferous (see certificated plants).

Executors of the late Mr. T. Rochford, Turnford Hall, Broxbourne, show the value of the new Turnford Hall winter-flowering Begonia by the fine batches they have lately staged at Drill Hall meetings. The plant is not truly white, but has a tinge of pink in it.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, were strong in Cyclamens—C. latifolium varieties, including the crested novelties.

Messrs. Cutbush and Son, Highgate, London, N., staged a delightfully odorous group of Daphne indica rubra, together with Ericas and fruited Oranges.

A group of Coleus thyrsoides, Poinsettias, and Callas were well staged by Messrs. Cannell and Sons, of Swanley. They also staged fine samples of B. Gloire de Lorraine.

A patent lead glazing for Palm houses, which appears to be very complicated, was shown in section by Mr. H. C. Lassan, 11, Bermondsey Street, S.E.

M. de Luzy, Frères, 44A, Harold Street, Camberwell, London, S.W., on this occasion brought forward a patent powder bellows, by which sulphur, hellebore, or other suitable dry powder can be quickly, economically, evenly, and lightly dusted on any

desired part of the foliage of Vines, Chrysanthemums, or other plants. The working principle is simple and effectual. They received a commendation for the patent, of which we hope further to make note.

Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq. (in the chair); with Messrs. H. Balderson, Alex. Dean, S. Mortimer, J. W. Bates, Geo. Kelf, W. Pope, H. Markham, W. Gleeson, H. Somers Rivers, Jos. Cheal, John Basham, F. Q. Lane, J. Willard, Geo. Wythes, W. Poupert, C. Herrin, E. Shaw Blaker, and W. Wilks.

Messrs. J. Laing and Sons, The Nurseries, Forest Hill, London, received a Silver Knightian Medal for a highly creditable display of Apples. Hoary Morning, Sandringham, Lane's Prince Albert, Tyler's Kernel, and Blenheim Orange were especially fine.

Messrs. James Veitch and Sons, Limited, Royal Exotic Nurseries, Chelsea, staged many fine baskets of Pears, including Winter Nelis (F.C.C.), Marie Benoist, Glou Morceau, Passe Crasanne, Beurré Rance, Bergamotte Esperen, Josephine de Malines, Vicar of Winkfield, and others (Silver Knightian Medal).

Mr. Frank Bibby, Hardwicke Grange Gardens, Shrewsbury, obtained a Silver Banksian Medal for eight creditable dishes of Pears.

Splendid samples of the new Sutton Rhubarb were shown by the Earl of Ancaster (gardener, Mr. Butler), Normanton Park, Stamford; Apple St. Basil came from Mr. J. Basham, Fairbank Nurseries, Bassaleg; the new Pear, General Wauchope, from Mr. Charles Ross, of Welford Park.

One and a-half dozen bunches of Grape Alicante were staged by W. Shuter, Esq. (gardener, Mr. T. Armstrong), 22, Belsize Grove, South Hampstead. The bunches were splendidly finished and well developed. The Vine from which they were cut was planted in 1876, and produced this season forty-five bunches, and this within three miles of Charing Cross.

Medals.

Floral Committee.—Silver-gilt Flora to L. de Rothschild, Esq., Ascott, Leighton Buzzard, for group of Begonias. Silver Flora to Messrs. J. Veitch & Son, Chelsea, for group of Moschosmas; to Thomas Rochford, Broxbourne, Herts, for group of Begonias; to Messrs. H. Cannell & Sons, Swanley, Kent, for group of flowering plants. Silver Banksian to Mr. W. J. Godfrey, Exmouth, Devon, for group of Chrysanthemums; to Mr. K. Drost, Richmond, Surrey, for English-grown Lilac.

Fruit Committee.—Silver Banksian medal to W. Shuter, Esq., 22, Belsize Grove, Hampstead, eighteen bunches of Grapes; to Frank Bibby, Esq., Shrewsbury, eight dishes of dessert Pears. Silver Knightian medal to J. Laing & Sons, Forest Hill, sixty dishes of fruit; to J. Veitch & Sons, Chelsea, collection of Pears.

Orchid Committee.—Silver Banksian to W. Shuter, Esq., for group of Cypripediums. Silver Flora to Baron Schröder for group cut blooms; to Messrs. B. S. Williams for group of Orchids.

Certificates and Awards of Merit.

Amaryllis Impératrice de Bresil (Sir Trevor Lawrence, Bart.).—The specimen in flower was over 3 feet high, with straight, erect, fleshy stem; leaves 2½ feet long, smooth, entire, glaucous, 2 inches broad; inflorescence, with four noble lavender-coloured flowers. In length they are about 9 inches, each of the segments being beautifully fimbriated (Award of Merit).

Asparagus japonicus (H. & J. Elliott).—A very distinct species, lively green in colour, densely feathery, the leaflets about half an inch in length, and much crowded on the very slender branchlets; they are moreover flat. A very fine novelty, and likely to be useful (Award of Merit). Messrs. H. & J. Elliott, Hurstpierpoint, Sussex.

Cattleya Trianae alba, var. *Mrs. Edw. Loudheim* (Hugh Low and Co.).—A magnificent flower, large and heavy, with wavy edged petals and sepals, each slightly recurving; colour pure white, with prominently suffused orange throat (First Class Certificate).

Cypripedium × *Jessie Wright* (A. Wright).—C. Chamberlainianum and C. Lathamianum as the parents produce a fine bold flower, chocolate-brown pouch, wavy sepals, but stout and firm (Award of Merit).

Cypripedium × *Mrs. A. W. Sutton* (Alex. Wright).—The parents here were C. Chamberlainianum and C. niveum. It has much of the former parent's influence, and "hardened-up" with the other (the male) parent (Award of Merit).

Exacum Forbesi (Jas. Veitch & Sons, Ltd.).—A species from Socotra; dwarf, like E. affinis, flowers much resembling those of Solanum dulcamara, in terminal cymes. It is free flowering, and makes a useful decorative subject grown from cuttings (Award of Merit).

Iris Tauri (Wallace & Co.). A dwarf, violet-purplish Iris of the reticulata type, with orange vein in the centre of the lip, and a number of white marks on either side (Award of Merit).

Lalia anceps Chamberlainiana (de Barri Crawshay, Esq.).—A noble variety; flowers of exceedingly large size. Petals and sepals are well spread out, the petals being broad, pale mauve shade. The lip is large, rich maroon purple, notched in the centre with orange,

throat and chocolate lines. It forms a fine deep tube, with richly coloured edge (First Class Certificate).

Laelia anceps *Hi liana* *Rosefieldiense* (de Barri Crawshay, Esq.).—White, with delicate mauve-pink toning; medium size, yellow throat, with mauve tint at the tip of the lip; very fine (Award of Merit).

Laelio-Cattleya *O pheus* (J. Veitch & Sons, Ltd.).—A lovely hybrid, with a well expanded soft wavy lip, deep primrose suffusion in the throat. Sepals long and narrow, pink-tinted; pure white petals. The parentage was *L. glauca* and *C. Trianae alba* (Award of Merit).

Pear Winter Nelis (J. Veitch & Sons, Ltd.).—This splendid late-keeping Pear received a First Class Certificate.

Cardiff Gardeners' Association.

The opening meeting of the above took place on Tuesday, January 7, at the Grand Hotel, Mr. F. G. Treseder, F.R.H.S., in the chair. Mr. F. W. E. Shrivell, F.L.S., F.R.H.S., of Thompson's Farm, Tonbridge, delivered an exhaustive and varied lecture upon chemical and organic manures, defining the proper proportions for certain subjects, and the best times to apply the same. The lecturer pointed out that the very best results could be obtained by applying chemicals methodically and carefully upon fruits, vegetables, and herbaceous borders.

Printed sheets were used for the use of members, showing the proper quantities to be mixed together. Though it was the fourth time Mr. Shrivell had lectured before the association, the matter used seemed to be all new, and proved to be even more interesting than his former lectures. At the close Mr. Shrivell was accorded the best thanks of the association for his splendid advice, to which he very ably responded.

Chester Paxton Society.

The opening meeting for the present session was held in the Grosvenor Museum on Saturday, when the Curator, Mr. R. Newstead, F.E.S., delivered a lecture entitled, "The Mammals of the British Isles, Past and Present." The chair was occupied by Mr. John Weaver, President of the Society, who offered a few words of welcome to the members, and briefly introduced Mr. Newstead. In his introductory remarks, the lecturer dealt with the mammals inhabiting the British Isles within the historic period, which amounted to forty-seven terrestrial species, including the wolf, beaver, brown bear, and wild boar, all of which are now extinct. The bats were afterwards dealt with at some length, interesting details being given as to the food and habits of these curious animals. Proceeding, Mr. Newstead passed in review all the species which were more familiar to the horticulturist and agriculturist, including the several kinds of rats and voles and mice, as well as the mole, squirrel, &c. The principal mammalia were shown on lantern slides, and these gave added interest to the lecture, which was closely followed by all who were present. Several questions were asked, and an interesting discussion followed, in which Messrs. G. P. Miln, John Scott, Robert Wakefield, and others took part. The chairman proposed, and Mr. N. F. Barnes seconded, a hearty vote of thanks to Mr. Newstead.

Chiswick Gardeners'.

Owing to the energy and ability of the new secretary of this mutual improvement association, the first meeting of the year, held on January 9, is to be recorded as an unqualified success. The old Council Chamber was packed to overflowing. Mr. T. A. Dymes, of the Selborne Society, gave a lecture on "The Mutual Dependence of Animals and Plants." After pointing out that the life of both is dependent upon satisfying the same requirements of respiration, nutrition, and reproduction among other necessities in common, he drew a sharp distinction between the true food taken into the animal body, including our own, and the "food-ingredients" absorbed by plants; and emphasised the fact that plants are as incapable of digesting liquid minerals and gases as we ourselves. By a series of lantern slides the path of the solutions absorbed by the roots and conducted into the leaves was explained, as well as the admission of CO₂ first into the interior of the leaf and then to the inside of the cells. Attention was next drawn to the chlorophyll corpuscles, and it was pointed out that under the influence of sunlight and an appropriate temperature their work is to construct food from the ingredients now contained with them inside the cell, the first visible product of their labour being starch. Hence chlorophyll is the great manufacturer of food for the whole world, no other source and no other means of manufacturing it being known. Reverting to the absorption of CO₂ by the leaves, reference was made to its continuous exhalation by animals and removal by plants, which, in the process of food manufactures, break it up into its constituents, and return the oxygen to the air. Thus does the vegetable world put the animal into the position of double debtor for food and breath.

Turning to the other side of the account, in spite of appearances every plant during its life passes through one locomotive

epoch, viz., the seed or dispersal epoch, locomotion being also essential for the purpose of pollination. Themselves deficient in this respect, plants call to their aid the locomotive powers of Nature and the animal world. Illustrations of some thirty native plants were shown upon the screen, and their pollination and dispersal, either by animals, wind, or the plant itself, were explained. In conclusion, it was contended that the debtor balance was against the animals, whose dependence as individuals, and as a kingdom is absolute, while on the other hand there are many plants absolutely independent of the animal world, the extinction of which would by no means involve the disappearance of the vegetable, although it would change the whole face of our flora so profoundly as to suggest those remote geological times when bright blossoms and the hum of insects were still buried in the possibilities of the future, and the earth was arrayed in a sombre cloak of Cryptogams and Conifers. Votes of thanks were unanimously accorded to the lecturer and Mr. Alan, who kindly lent and worked his lantern, and were suitably responded to. The record attendance was a good start for the spring season.—E. H. BUCK, Hon. Secretary.

Croydon Horticultural.

The annual general meeting passed on Tuesday, the 7th inst. The report for the year, showing the society to be in a sound financial position, and gaining considerable favour in the district, was received by the members. The sum of 25s. has been gathered at the meetings, and has been handed over to the secretary of the Royal Gardeners' Orphan Fund. The balance-sheet and statement of accounts for the year ended December 31, 1901, showed that the balance in hand at the commencement of the year was 19s. 4d., while subscriptions, &c., made the total receipts up to £19 11s. 4d. The expenditure was such that a balance of £3 6s. 9d. was carried forward. The accounts, prepared by Mr. F. C. L. Wratten, treasurer, were audited and found correct by Messrs. C. A. Blogg and W. Turney. The officers and committee for the ensuing year were then chosen as appended:—President, Mr. Frank Lloyd; vice-presidents, Mr. F. W. Burbidge, M.A., V.M.H. (Dublin), Mr. F. English (Addington Park), Mr. Wickham Noakes (Selsdon Park), Mr. J. J. Reid (Coombe Lodge), Mr. C. H. Walker (Falkland Park), Mr. F. C. L. Wratten (Croydon); treasurer, Mr. Percy F. Bunyard; hon. secretary, Mr. John Gregory (60, Canterbury Road, Croydon); chairman, Mr. W. J. Simpson; vice-chairman, Mr. M. E. Mills; committee, Messrs. C. A. Blogg, W. Bryant, H. Boshier, P. Bound, J. Dingwall, W. Harris, W. E. Humphreys, E. Kromer, W. Laing, W. H. Lisle, A. Maslen, A. H. Naylor, W. Simpson, W. Woodgate, and J. Wright. Towards the close of the meeting Mr. Gregory was heartily thanked for his excellent services as hon. secretary during the year, and he in turn mentioned that the second annual dinner and social evening of the society would take place at the Greyhound Hotel, Croydon, on Wednesday, January 22, when Mr. Frank Lloyd (who was that evening prevented from attending) had kindly consented to preside. A harmonious meeting closed with a vote of thanks to Mr. Simpson for his conduct of the business.

Devon and Exeter Gardeners'.

The spring session (1902) of the above opened on Wednesday, January 15, when Mr. F. W. E. Shrivell, F.L.S., lectured on "Chemical Manures and their Action on Bush and other Fruits, including Tomatoes, Grapes, &c." The other papers are: Wednesday, January 29, Mr. G. C. Crabbe, Prospect Park, Exeter, "The Chrysanthemum as a Cottager's Plant;" Wednesday, February 12, Mr. E. A. Meyer, Exeter, "The Art of Gardening in Germany as Compared with England;" Wednesday, February 26, Mr. George Lee, gardener, Upton Leigh, "Hybridisation and its Bearing on Practical Gardening, Botany, and Commerce;" Wednesday, March 12, Mr. H. Baker, assistant at Messrs. Veitch's nurseries, "Eccentricities in Plant Life;" Wednesday, March 26, Mr. R. Hodder, gardener to Mrs. Trevor Barclay, Ponsonby, "A Stroll in the Garden." The giving of small prizes at the fortnightly meetings of the last two sessions, for specific subjects in vegetables or flowers, proved an attraction to the members, and the committee therefore continue the practice.

Scottish Horticultural Association.

The annual business meeting of this association was held in Dowell's Rooms, Edinburgh, on the evening of Tuesday, the 14th inst. There was a very large attendance of members, Mr. Comfort, president, in the chair. The secretary read the twenty-fifth annual report of the council, giving an account of the proceedings of the association during the past year, which showed that its operations were in a most active and successful operation. There are now over 1,100 members on the roll, and the monthly meetings had been very largely attended, and the papers read

had been of the most varied and interesting nature, and at the monthly meetings many most interesting and beautiful exhibits had been made by members. The report of the treasurer showed that the funds of the association were in a flourishing condition, the total income from membership and Chrysanthemum Show amounting to £1,195 and the expenditure to £1,172, leaving a balance of £23, this expenditure including £374 for prizes, £247 for music, also contributions to charitable objects. Mr. Comfort was unanimously reappointed president, Mr. A. Mackenzie and Mr. R. W. E. Murray were appointed vice-presidents, Mr. Peter Loney secretary, and Mr. MacKinnon treasurer. The vacancies in the council were filled up by the election of Messrs. Todd, McHattie, Chalmers, Chaplin, Scarlett, and Kidd. It was arranged to hold the Chrysanthemum Show in the Waverley Market on November 13, 14, and 15, and the council were instructed to carry out the arrangements as usual. It was also agreed to celebrate the twenty-fifth year of the association's existence by a social meeting, to be held in March next.

Trade Notes.

Messrs. Kent and Boydon, seed merchants, Darlington, have issued a calendar for 1902. Verily, we ought to know what the date of any day of the month is! The calendar is also useful as denoting when to sow certain seeds. The above firm has, we are pleased to learn, been appointed seed merchants by Royal Warrant to His Majesty the King.

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We have pleasure in informing our readers that Messrs. Ransomes, Sims, and Jefferies, Limited, Orwell Works, Ipswich, have been appointed by Royal Warrant manufacturers of agricultural and horticultural machinery to His Majesty King Edward VII.

* * *

We learn that the nursery and seed business of Messrs. Stuart and Mein, Kelso-on-Tweed, has been acquired by Messrs. Laing and Mather, of the same town, the joint business being formally amalgamated from January 1 this year.

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On account of the very heavy floods experienced in the American Pearl Tuberose district this season, the crop has been materially damaged, and the produce of the bulbs is extraordinarily short.

* * *

Messrs. Darlington and Co., horticultural and heating engineers, Darlington, have issued a new edition (1902) of their trade catalogue, price 2s., and it is well worth the money as a guide to those who would study conservatory construction and heating. There are seven sections in the catalogue, and these detail all manner of conservatories, winter gardens, pits, frames, glass copings, verandahs, hot water ranges and connections, boilers, &c. It is well got up with abundance of useful and beautiful illustrations on rolled art paper. Two hundred and sixty-four pages are bound in stout cardboard covers.

* * *

Messrs. William Wood and Son, Limited, horticultural sundriesmen, import and export merchants, &c., Wood Green, London, write to us as follows:—"We shall feel obliged if you will peruse the enclosed two circulars, which refer to matters of interest to gardeners. The use of leaf mould instead of peat for Orchids is becoming general, and the opinions expressed by representative growers favour the practice; the rhizomes of peat also are found to be preferable to the ordinary crocks when potting Orchids. We may add that we frequently read in the horticultural Press inquiries and replies concerning different forms of fungoid and other diseases and their cause. Our "Veltha" and other preparations have proved invaluable remedies for such diseases, and too much attention cannot be drawn to them for the benefit of gardeners."

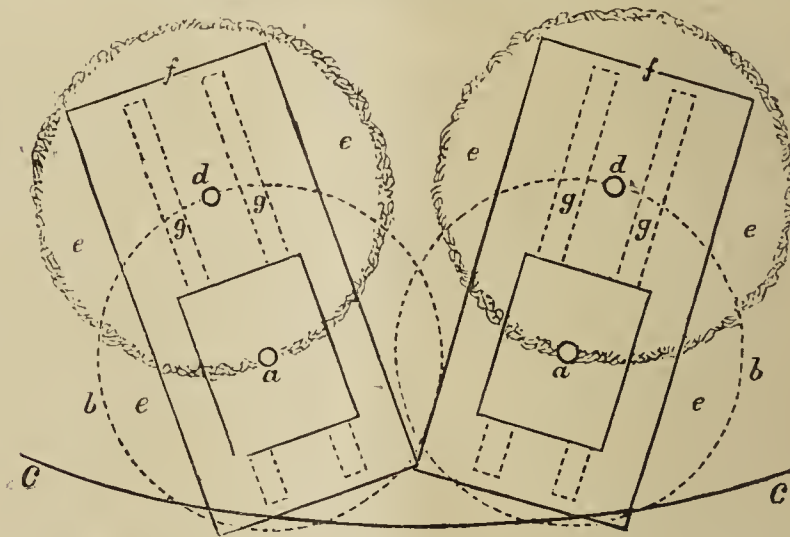
As proof of what they state, Messrs. Wood send a letter dated December 26, 1901, from a gardener at Rugby, who speaks in praise of the fungicide, adding, "I have given your 'Veltha' a good trial this season, and have found it a great help to me in growing winter flowering Begonias. Gloire de Sceaux is usually eaten up with rust here, but this season, after using 'Veltha' freely on them, I have a batch in perfect condition, and flowering freely at the present time. I have also found it effective on my bush Chrysanthemums. They were badly attacked by rust, but a good dressing of 'Veltha' soon checked it." The "Nidos" (No. 1) Orchid compost is described as being "almost identically the same as Belgian leaf soil." The firm issues a catalogue of improvements in various garden tools. The catalogue should be secured and consulted.

Moving Large Shrubs.

It very frequently occurs that shrubs are left in positions where they have not room for development. Shrubs planted too near to walks are very troublesome on account of the hard cutting they have to be subjected to, to keep them within bounds. Not only is this so, but they are generally an eyesore, sometimes in the shape of round mop-like heads as hard as worn-out brooms, at others they assume the form of hedges, some even going so far as to cut them with hedge shears. Instead of going on year after year cutting them, it would be much better to move them back, so that they could have a reasonable amount of room. To those who may have such to deal with, and are in any doubt as to how it is to be done, the following note on the subject will perhaps be acceptable.

Suppose, then, that A A, in the figure, represents the position of two Laurels, with a spread of branches some 5 feet from the stem, as indicated by the dotted lines B B. For their size they are too near the edge of the walk C C, and too close together. In the first place the lower branches must be tied up so that they will not impede the work of removing the soil. This is best done by getting a good length of strong, soft rope. Fix one end to the main stem about 5 feet from the ground; take a few branches in the double of the rope and bring the loose end round the stem again and pull the branches up tight; enclose a few more in the next double, and so work round the tree till all is made secure by fastening the end of the rope to where you started.

We will suppose that the Laurels have to be moved back a distance of 5 feet, and a like distance further apart. The new



position will be at D D. At those points insert stout pegs, and from them at each side, and from the stems of the shrubs, measure off 3½ feet E E E, stretch a line to correspond, and mark it out with the spade. Measure from D to F 4 feet. In the same way mark out a square ball round the shrub, say 4 feet by 5 feet. Proceed to dig out the whole of the soil to a depth of 2 feet, except this square round the roots of the tree, placing the soil at each side of the trench. This done, commence to undermine the ball on each side to a distance of about 9 inches, having a clear space of about the same depth below the ball. At each end undermine it in the same way to the distance of a foot. Now get two long planks, and place them, one on each side, under the ball as shown at G G G G. Upon the top of each of these place a bat of good sound oak or larch, about 4 or 5 inches square and 6 feet long, so that they will project 6 inches beyond the ball at each end. On the top of these bats place a piece of 1½-inch board, 9 inches wide and 4 feet long, across each end, pushing them under the ball as far as possible.

Next, place something under each corner, a small block of wood, or a brick if there is room for it, between the planks and the bats. This will give room to get a bar under the ends of the latter, by which means it will be easy to raise it so as to get a brick under. Having placed one under each corner, get a lever about 10 feet long, made of a straight young Larch, with a large block of wood for a fulcrum, and with this raise one corner at a time, and place another brick on the top of the one already there, or, what is better, apply two levers at the same time, placing a brick under each corner.

Having raised it in this fashion till there are four bricks under each corner, clear all loose soil from under level with the planks, and cut off any roots that may project below the level of the bats under the ball. Four rollers of about 6 inches diameter and 4 feet long are now required. Place two of these in position on the planks, and by using the levers remove the bricks one by one till the bats rest on the rollers. It is then moved along the planks to its new position, raised on bricks again to allow of the rollers being removed, and then let down

on the planks. Ram the soil well under the ball, where it may be hollow before filling up the space round it. Without very much difficulty two men may remove such trees in the way above described, but if they have a lad to assist, the work is done much sooner. They can then each use a lever while the lad places the bricks. If good hard-burned bricks cannot be had, blocks of wood of the same size will be best, as soft bricks will not stand the weight of a heavy ball.—R. I.

Evaporating Fruit and Vegetables.

For some years rural authorities in various parts of England have been experimenting with machines that are made for drying and so preserving fruit and vegetables by evaporating the greater part of the water contained in the tissues. Dried Prunes from abroad may be pointed to as good samples of this evaporating process.

Mr. James Harper, "the indefatigable advocate of evaporated fruit," and who appears to have demonstrated to the students at the Hostel endeavours to explain the cause of the disappointment in their experiments in fruit drying on the grounds that (1) The fruit must have been in bad condition; (2) Too high prices had been given; (3) Coal charges were excessive. The following table shows the results at Reading:—

TABULATED RESULT OF ONE SEASON'S TRIAL FRUIT EVAPORATING, BY INVICTA MACHINE (No. 1), SOLD BY MESSRS. LUMLEY & CO., AMERICA SQUARE, E.C.

Articles.	Quantity Fresh.	Quantity Dried.	Cost when Fresh.	Cost of Coal used.	Probable Market Value.
			£ s. d.	£ s. d.	£ s. d.
Pershire Plums	300 lbs.	37 ³ / ₄ lbs.	1 5 0	0 9 0	0 18 10
Damson Plums	2 bushels.	20 ¹ / ₄ lbs.	0 6 0	0 6 0	0 10 0
French Beans	56 lbs.	41 lbs. 7 ozs.	0 4 0	0 6 0	0 8 6
Currants	24 lbs.	1 ³ / ₄ lbs.	0 5 0	0 1 0	0 3 6
Cherries	1 bushel	8 ¹ / ₄ lbs.	0 6 0	0 4 6	0 8 3
Potatoes	1 bushel	2 ¹ / ₄ lbs.	0 4 0	0 2 0	0 1 3
Carrots	1 bushel	³ / ₄ lb.	0 1 0	0 0 9	0 0 4
			2 11 0	1 9 3	2 10 8
Cost of Evaporator Boxes				£ s. d. 19 10 0 0 8 0	
Expenditure				£ s. d. 23 18 3	
Market Value of Stock in hand				2 10 8	

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1902.										
January.										
Sunday ... 5	W.S.W.	deg. 43·8	deg. 39·4	deg. 47·3	deg. 41·0	Ins. —	deg. 43·4	deg. 44·3	deg. 45·0	deg. 33·5
Monday ... 6	S.W.	46·8	43·2	51·1	37·6	—	41·9	44·0	45·2	38·3
Tuesday ... 7	S.W.	41·7	39·9	46·4	38·9	—	41·4	43·6	45·2	27·0
Wednesday ... 8	W.S.W.	43·1	39·5	44·1	41·3	—	41·9	43·5	45·2	39·0
Thursday ... 9	W.S.W.	44·3	41·4	51·1	40·2	0·03	41·9	43·5	45·2	38·9
Friday ... 10	S.W.	50·7	49·0	53·1	44·0	—	43·9	43·6	45·3	42·4
Saturday ... 11	W.S.W.	48·3	46·9	49·3	48·2	0·0	45·1	43·6	45·3	40·3
MEANS ...		45·5	42·8	48·9	41·6	Total. 0·05	42·8	43·7	45·2	37·1

The weather during the week has been dull and mild. Sunday and Monday was very bright and warm.

PUBLICATIONS RECEIVED.—*Floralia*. Meehan's Monthly: coloured plate and description of Delphinium bicolor. Holloway's Almanac, 1902. Newstead's Monograph of British Coccidæ, vol. I.



The Kitchen Garden.

POTATOES IN FRAMES.—If a sufficient quantity of manure and leaves are available to form a hotbed inside a brick frame or built in the open with a frame on the top, Potatoes may be planted now. In the latter case more manure will be required than in a brick pit, and a few linings of fresh manure will be necessary also. On the surface of the manure place 9in to a foot of soil. Plant the tubers 6in to 8in apart, in rows 15in asunder. Well sprouted sets are the best for the purpose, rubbing off all the weakly side sprouts. In severe weather cover the frame-lights with mats or litter to exclude frost.

CARROTS AND RADISHES.—Early crops of the short varieties of Carrots, such as Sutton's Inimitable Forcing and Early Short Horn, may be secured by sowing on a good hotbed covered with a foot depth of light, rich soil. Sow the seed either in drills or broadcast, not thickly in either case. A sprinkling of Radish seed ought also to be sown, covering both with a layer of fine soil. Both may be grown, however, in frames partly filled with light soil. The plants will not advance so rapidly, but they will be earlier than roots can be procured by outdoor sowing. The oval or olive-shaped varieties, and Wood's Frame Radish, are excellent for early frame culture.

RHUBARB.—A hotbed in a spare frame is a good place to force clumps of Rhubarb, especially an open hotbed, as this can be renewed occasionally with fresh linings of manure to maintain a suitable temperature. Clumps may also now be placed under the stages in a warm house, or any corner where a temperature of 55deg to 60deg is maintained.

ONIONS.—Seed of Ailsa Craig or other choice variety of Onion may be sown in boxes of soil placed in a vinery or other structure. Keep the boxes in a light position after the seed has germinated, and gradually harden the young plants to outdoor treatment, for planting out in April.

RED CABBAGE.—Serviceable Cabbages are obtained in autumn by sowing seed now in a box and pricking out the seedlings to strengthen before finally planting them out in rich soil in April.

CAULIFLOWERS.—One of the earliest and best Cauliflowers is Sutton's First Crop. Fortunately it is easily raised from seed sown about this date, in a pan or box, and the seedlings pricked out in other boxes, or better in a frame, whence they can be lifted and planted in the open ground in good, rich soil in April. It is not of large size, but in good soil the heads advance to a moderate size.

BROAD BEANS.—A sowing may be made of Mazagan or Prolific Longpod on a well-drained border, but in cold, wet soils it will be better to defer sowing for a few weeks. Sow in a drill, drawn 9in wide and 4in deep, placing the seed 4in apart in two lines.

DWARF BEANS.—The only way of securing early crops of these is to sow in pots in heat and later in frames. A low span pit, well heated, is a suitable structure, and 8-in pots should be three parts filled with good loam and manure, sowing in each about eight seeds. In a temperature of 65deg they will soon germinate, when elevate the pots close to the glass, maintaining a steady temperature, adequate moisture and a top-dressing of rich soil when the plants have advanced to a fair size. Successional batches of pots must be filled and sown to maintain the supply.

SOWING PEAS.—The desire to have early crops of Peas is a strong inducement to many to sow a few early rows in the open ground, but it is questionable whether much is gained by placing the seed in cold soil before the end of the month except a warm, dry, and sunny position can be ensured. A surer way of obtaining an early crop is to sow the seed under glass in pots or boxes. If pots are chosen, place some leaves at the bottom of a number of 3-in pots, nearly fill these with light soil, and sow the seed, just covering with soil.

Sowing in narrow boxes, the sides of which may be detached when the Peas are ready for planting, is a good method. Perhaps, however, the plan of sowing the seed in strips of turf is the best. Scoop out a drill in the centre of turf, and sow the Peas rather thickly, covering with fine soil. The pots, boxes, or turves may be placed in a temperature of 55deg, just maintaining sufficient moisture to start germination. Afterwards give plenty of light and abundance of air, as it is necessary that the seedlings should not become drawn. Previous to planting, which may be done in a month, if weather be favourable at that time, cold frame treatment is the best preparation.—LYMINGTON, HANTS.



TO CORRESPONDENTS

TUBEROSE (P. G.).—Will do our best to assist you.

SCALDING LEAF MOULD (G. S., Somerset).—Wherever there is any doubt about the cleanness of leaf mould, in regard to fungoid presence or of insects, it would be advisable to thoroughly seal the leaf soil. A fuller answer will be forthcoming in our next.

BUSH APPLE AND PEAR TREES ALMOST RUINED WITH THE BARK AND YOUNG WOOD EATEN BY A PEST (Rose).—The shoots and spurs from the bush Apple and Pear trees are badly infested with canker fungus, *Nectria ditissima*, and there are also a few mussel scale, *Mytilaspis pomorum*. The wood is also much overgrown with lichen and moss. To deal effectually with the trees they should be treated with caustic alkali solution made as follows:—Purchase half a pound of ground commercial caustic soda and place it in a bucket half filled with water, taking care not to handle it or get any on the clothes. Add 6oz of pearlash to the liquid and stir until dissolved, then dilute the solution to 5 gallons. To this add a solution of softsoap, 5oz dissolved in a little boiling water, always adding this soap solution last, then stir the liquid thoroughly, and it is ready for use. Apply the caustic alkali solution on a calm day, when the trees are dry and quite dormant, using a Vermorel knapsack sprayer or other suitable means of producing a fine spray, and only just wetting the twigs and branches. In spraying take care not to get the liquid on the hands, preferably putting on a pair of rubber gloves, a very old suit of clothes, and not-wanted-again hat, for the wash is strongly caustic and decidedly injurious to skin and clothing. The appearance of the trees after being treated is very striking. All the green overgrowth and lichen disappear, the latent insect life is destroyed, the "fruits" of the canker-fungus are killed, and the bark shines clear and clean. The chief mischief, however, in your case is caused by the canker, the young shoots being killed to some extent, and the "fruits" of the fungus are present on the dead parts. We should cut away all the dead and worst-cankered parts before using the caustic alkali wash, or it may be done afterwards in the course of a few days, safeguarding the hands with indiarubber gloves, which would, perhaps, be the better procedure, as the dead parts would be easier recognised from the living. If there are any large patches on the branches or stems cut away all the dead bark and round the circumference of the wounded living bark, and dress the wound with Stockholm tar thinned to the consistency of paint with paraffin oil, applying by means of a stiff, half-worn, clean paste brush. No more can be done to the tops, only dress all the cuts made in pruning with the Stockholm tar and paraffin oil composition, for the fungus appears to have entered by the wounds. To the soil apply 4oz per square yard of the following mixture from the stem outwards to a foot beyond the spread of the branches:—Superphosphate of lime, nine parts; nitrate of potash, powdered, five parts; nitrate of soda, crushed, seven parts; and sulphate of lime, seven parts; mixed. This top-dressing should be given now, or before growth takes place. The tops of the trees, however, should be first attended to, then applying the top-dressing as soon afterwards as the state of the weather admits. There is no need to work the dressing in; the rains will do that fast enough. The dressing may be repeated in autumn; indeed it is advisable to give an application then and repeat it in the spring. By the means here given I have known some badly cankered Apple and Pear trees completely cured.—G. ABBEY.

STRIKING VINE CUTTINGS (Constant Reader).—Propagation by cuttings is the usual method of securing outdoor Vines, also stocks for grafting. The cuttings may consist of two or three joints of well ripened last year's wood or cane, preferably taking the cutting off with a heel, which, or base of the cutting just below a joint, is pared smooth, the buds cut out on the part to be inserted in the soil, leaving one or two at the top, and the whole length of the cutting 9in to 12in. The cuttings may be inserted where the Vines are desired to grow. The only care needed to insure success is their insertion whilst dormant (November to March, during mild weather) in free sandy soil, making

the soil firm about each, inserting two-thirds or more of its length in the soil, and watering in dry weather. Raising Vines from "eyes," however, is the usual mode practised in this country. The eye or bud must be taken from firm, thoroughly ripened wood of the previous year's growth, and the bud itself should be firm and round. The bud may be prepared for insertion by cutting about half an inch above and below the bud. The eyes may be inserted early in February, or a little sooner, in 3in pots, efficiently drained a quarter of their depth, filling them to within $\frac{1}{2}$ in of the rim with a compost composed of one-half fibrous loam, a quarter of half-decayed leaf soil, and one-eighth each of fine charcoal and crystal sand. Press the mixture down rather firmly, then make a hole, introduce a little sand, press the eye with sand under, around, and over it so that the bud will be just level with the surface of the soil. The compost should be moist when used, and a light watering will settle the sand about the eyes. Pots or pans prepared in a similar manner can be used, placing a number of eyes in each, or the eyes may be inserted in cocoa-nut refuse mixed with a fourth of sand, in a propagating bed over bottom heat. Another method is to press the eyes simply into turves about 6in square and 3in thick, when the intention is to plant out the same spring as inserted. The pots, pans, or turves containing the eyes should be plunged in a



- | | |
|---|---|
| 1, <i>Dracaena australis</i> . | 7, <i>Alternanthera amena spectabilis</i> . |
| 2, <i>Coleus Verschaffeltii</i> . | 8, <i>Mesembryanthemum cordifolium variegatum</i> . |
| 3, 3, <i>Pyrethrum Golden Feather</i> . | 9, <i>Echeveria metallica</i> . |
| 4, 4, <i>Alternanthera amabilis</i> . | 10, <i>Lobelia pumila grandiflora</i> . |
| 5, 5, <i>Echeveria secunda glauca</i> . | 11, <i>Antennaria tomentosa</i> . |
| 6, <i>Alternanthera paronychoides</i> . | 12, Box edging. |

bottom heat of 75deg to 80deg, in a house with a temperature of 60deg to 65deg at night, 70deg to 75deg by day, with an increase of 5deg to 10deg from sun heat, taking care not to overwater, or the growths may become "blind." When roots form and top growth is made to the extent of a leaf or two, the strongest of the young plants raised in pots, pans, or beds may be placed in 5-in pots, the weaker in 3-in pots, whilst those inserted in 3-in pots may be transferred to 5-in or 6-in pots when the small ones are fairly filled with roots. After potting they may be arranged on a bed or on shelves over hot-water pipes, where they can be trained in all the light possible.

ROMAN HYACINTHS DISEASED (Chelwood).—We have had little time to investigate. Will report next week.

BOOK (C. C.).—Cousin's "Chemistry of the Garden," price 1s., Macmillan and Co., you will find most useful. So also is Dr. Aikman's "Food of Crops," 2s., Vinton and Co., Limited, New Bridge Street. Perhaps these will do to begin with.

LABELLING (Label).—Write to any of the sundriesmen who advertise in our columns. We cannot name any one rather than another. A few weeks ago we gave illustrations of labels. Any nurseryman and seedsman with a good business could surely supply you. Other question next week.

PLAN OF A CARPET BED (James Lane).—We commend the annexed plan to your notice. If you employ an evening or two in copying it and similar forms, you will have some competency in this style of geometrical drawing; such, also, would be a commendable use of your time.

CAMELLIAS (W. P. W. V.).—You would probably find it advantageous to disbud your bushes considerably. The appearance of the buds point to a check or failure of nourishing supply just at a time when the flowers are expanding. There may be sudden changes of temperature which would act detrimentally to the roots in the "half-piece pot." Surely you can put it into a whole pot, allowing a nice compost of equal parts turfy peat, good loam, and coarse sand. We hope to supply an article on phases of Camellia culture. Careful watering to avoid a sodden state, or, on the other hand, dryness, is necessary.

BRUSSELS SPROUTS DECAYED IN CENTRE (Rose).—The sprouts are certainly fine and hard, and when cut open have a few decayed leaves in the centre. This we have always regarded as due to sharp frost occurring early in winter and then followed by a period of comparatively mild weather, the tender leaves forming the central part of the crown having been thawed too rapidly, and thus destroyed. In other cases we have known a similar occurrence after a dry period in autumn, and this giving a hardness to the sprouts, preventing further growth, as the occurrence of moist growing weather so presses on the tender leaves inside as to destroy some of the tissue. It is very common this season, and regarded by some as a disease, but we cannot find trace of any parasitic organism. The subject is one that growers might with advantage discuss in our columns.

INSECT (A. B., Pontefract).—"I should be very glad if you could give me any information about the enclosed insects. We have a very good bed of Lily of the Valley, which bloomed beautifully last year. I was going to take a few crowns to force but could not find a single one. The ground was full of insects."

[There is no doubt your Lilies have been seriously damaged, or even killed, by the caterpillars sent, which are known to be very destructive to the roots and crowns of plants, also sometimes to bulbs. They are the caterpillars of one of the swift moths, probably those of the small swift, *Hepialus lupulinus*, which, though named after the Hop, and occasionally found in plantations of it, is the enemy of various plants. Fortunately, it is not generally an abundant species, and often feeds upon the roots of wild plants, as well as upon those in gardens. It is believed to live more than a year in the caterpillar stage; those sent, if not destroyed, would emerge as moths during June.]

NAMES OF PLANTS.—*Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number.* (E. J. P.).—1. *Abies Pinsapo*; 2. *Abies grandis*; 3. *Abies concolor* var. *violacea*; 4. *Picea sitchensis*; 5. *Abies magnifica*; 6. *Abies nobilis* (probably). (J. C. G.).—1. *Buddleia Lindleyana*; 2. probably a *Podocarpus*, one of the *Coniferae*; 3. *Eupatorium riparium*. (Zoe).—1. *Chlorophytum alatum variegatum*; 2. *Gasteria verrucosa*; 3. *Pteris chilensis*; 4. *Litobrochia vespertilionis*. (W. S., Stirlingshire).—1. pseudo-bulb of a *Cattleya*; 2. pseudo-bulb of *Oncidium*.

NAMES OF FRUIT.—*Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number.* (Juno).—Ord's Apple. (A. Osborn).—Wealthy Apple. (W. C. & Sons).—1. Kedleston Pippin; 2. Fearn's Pippin; 3. White Must, a cider Apple.

An Observer's Notes.

Under this heading there are many short interesting notes our readers might send.

JANUARY 17-24.

PLANTS DEDICATED TO EACH DAY.

Fri. 17	Tufted poacher goes.	Silvery Moss (<i>Bryum</i>).
Sat. 18	Cole Titmouse heard.	White Dead-Nettle.
Sun. 19	Starlings resort to buildings.	Large Dead-Nettle.
Mon. 20	Grosbeak goes.	Christmas Rose.
Tu. 21	Mezereon flowers.	Early Whitlow Grass.
Wed. 22	Skylark sings.	Saucer-like <i>Peziza</i> .
Thrs. 23	Great Titmouse heard.	Pointless Moss (<i>Phasum</i>).

Yesterday, January 10th, writes "W. G." I heard for the first time this year a blackbird tuning beautifully on a tree in a field near by.

Berberis Aquifolium is in flower at Waltham Cross, and Rose buds are starting into growth in the open air. The white-flowered *Cydonia* (or *Pyrus*) is also blossoming beautifully against a wall.—P.

Robins, thrushes, and blackbirds were all singing in sweet and musical chorus everywhere throughout the Royal Gardens at Kew on Sunday last. The weather was exceptionally mild and spring-like. The common Alder is flowering here; also *Erica carnea*; *Cydonia japonica*, *Iberis gibraltarica*, *Galanthus Elwesii* *hyemalis*, *Helleborus niger* and *H. caucasicus*, *Lonicera fragrantissima*, and the buds of the Weeping Aspen are already well developed. —D.

Covent Garden Market.—January 15th.

Average Wholesale Prices.—Plants in Pots.

	s.	d.	s.	d.		s.	d.	s.	d.
Aralias, doz. ...	5	0	12	0	Ferns, small, 100...	10	0	16	0
Arctæaria, doz. ...	12	0	30	0	Ficus elastica, doz. ...	9	0	12	0
Aspidistra, doz. ...	18	0	36	0	Foliage plants, var, each	1	0	5	0
Crotons, doz. ...	18	0	30	0	Lycopodiums, doz. ...	3	0	0	0
Cyclamen, doz. ...	10	0	12	0	Marguerite Daisy, doz.	8	0	10	0
Draçæna, var., doz. ...	12	0	30	0	Myrtles, doz. ...	6	0	9	0
Draçæna, viridis, doz.	9	0	18	0	Palms, in var., doz. ...	15	0	30	0
Erica caffra, doz. ...	15	0	18	0	specimens ...	21	0	63	0
hyemalis ...	9	0	10	0	Primulas ...	3	0	4	0
alba... ...	10	0	12	0	Shrubs, in pots ...	4	0	6	0
Ferns, var, doz. ...	4	0	18	0	Solanums ...	8	0	12	0

Average Wholesale Prices.—Cut Flowers

	s.	d.	s.	d.		s.	d.	s.	d.
Arums, doz. ...	3	0	4	0	Lilium l. rubrum ...	2	0	2	6
Asparagus, Fern, bnch.	1	0	2	0	Lilium longiflorum ...	3	0	4	0
Bouvardia, white, doz. bunches...	6	0	8	0	Lily of the Valley, 12 bnchs ...	12	0	18	0
Bouvardia, coloured, doz. bunches...	6	0	8	0	Maidenhair Fern, doz. bnchs. ...	6	0	8	0
Camellias, white... ..	1	6	2	0	Marguerites, white, doz. bnchs. ...	2	0	4	0
Carnations, 12 blooms	1	3	1	9	yellow, doz. bnchs.	0	6	1	0
Cattleyas, doz. ...	8	0	12	0	Narcissus, paper white, doz. bunches...	1	6	2	0
Chrysanthemums, specimen blooms, doz. ...	1	0	4	0	Soleil d'Or ...	3	0	5	0
white, doz. bnchs.	4	0	8	0	double Roman ...	1	6	2	0
coloured, per doz. bunches ...	3	0	8	0	Odontoglossums ...	4	0	5	0
Cypripediums, doz. ...	3	0	4	0	Primula, double white, doz. bunches...	6	0	8	0
Daffodils, single, doz. ...	7	0	8	0	Roses, Niphetos, white, doz. ...	2	0	3	0
double " ...	10	0	12	0	pink, doz. ...	4	0	6	0
Eucharis, doz. ...	3	0	4	0	yellow, doz. (Perles)	2	0	3	0
Freesias, doz. bunches	2	0	3	0	red, doz. ...	0	0	0	0
Gardenias, doz. ...	6	0	0	0	Smilax, bnch ...	3	0	4	0
Geranium, scarlet, doz. bnchs. ...	6	0	8	0	Stephanotis, doz. ...	0	0	0	0
Hyacinth, Roman, doz. bunches...	7	0	9	0	Tuberose, gross ...	8	0	0	0
Lilium lancifolium alb.	2	0	2	6	Violets, single, doz ...	1	6	0	0
					double, doz. ...	3	0	4	0

Average Wholesale Prices.—Fruit.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, cooking, lush.	6	0	8	0	Lemons, Messina, case	12	0	16	0
dessert ...	8	0	20	0	Oranges, per case ...	4	0	16	0
Bananas ...	8		12	0	Pears, English, ½ sieve	0	0	0	0
Figs, green, doz. ...	0	0	0	0	Pears, French, crate...	9	0	12	0
Grapes, Alicante, lb. ...	1	0	1	6	Pines, St. Michael's, each ...	2	6	0	0
Colman ...	1	0	1	6	Plums, ½ sieve ...	0	0	0	0
Hamburgh ...	0	0	0	0	Walnuts, ½ sieve ...	0	0	0	0
Muscat ...	2	6	3	6					

Average Wholesale Prices.—Vegetables.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes, green, doz.	2	0	3	0	Leeks, bunch ...	0	1½	0	2
Jerusalem, sieve	1	6	0	0	Lettuce, Cabbage, doz	1	3	2	0
Batavia, doz. ...	2	0	0	0	Mushrooms, forced, lb.	0	5	0	6
Beans, French, per lb.	2	0	3	0	Mustard & Cress, pnnt.	0	2	0	0
Beet, red, doz. ...	0	6	0	0	Parsley, doz. bnchs ...	2	0	3	0
Brussels Sprouts, ½ sieve	2	0	3	0	Potatoes, English, ewt.	4	0	5	0
Cabbages, tally ...	1	6	3	0	Radishes, doz. ...	1	6	0	0
Carrots, doz. bnch. ...	2	0	2	6	Seakale ...	0	9	1	0
Cauliflower, doz. ...	2	0	3	0	Shallots, lb. ...	0	2	0	3
Corn Salad, strike ...	1	0	1	3	Spinach, bush. ...	2	0	3	0
Cucumbers, doz. ...	6	0	9	0	Tomatoes, Canary con-				
Endive, doz. ...	1	0	1	3	signment ...	6	0	8	0
Herbs, bunch ...	0	2	0	0	Turnips, doz. bnch. ...	2	0	3	0
Horseradish, bunch ...	1	6	0	0	Watercress, doz. ...	0	6	0	8

Trade Catalogues Received.

- Wm. Bull. F.L.S., V.M.H., 536, Kings Road, Chelsea, London.—*Seeds*.
 Z. Coleman, seed grower, Sandwich, Kent.—*Seeds*.
 Frank Dicks & Co., 66, Deansgate, Manchester.—*Seeds, Gladioli, Liliums, &c.*
 E. P. Dixon & Sons, Hull.—*Seeds*.
 John Downie, 144, Princes Street, Edinburgh.—*Seeds*.
 Wm. Baylor Hartland, "The Imperial and Royal" Seed Warehouse, Cork, Ireland.—*Seeds*.
 Hobbies, Ltd., Horticultural Department, Dereham.—*Garden Guide, 1902*.
 Richard Smith & Co., Worcester.—*Seeds*.
 Stuart & Mein (incorporated with Haing & Mather), Kelso, Scotland.—*Amateurs' Gardening Guide for 1902*.
 Vilmorin-Andrieux & Co., 4, Quai de la Mégisserie, Paris.—*Chrysanthemums*.
 Vilmorin-Andrieux & Co., 4, Quai de la Mégisserie, Paris.—*Seeds of Trees and Shrubs*.
 B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, London, N.—*Seeds*.



Preparation for the Barley Crop.

Many of us can remember the time when Wheat was selling at 15s. and 20s. per quarter more than Barley. As on the average a heavier crop of the latter can be grown, it is not surprising that, with prices on the same level, or more often with a difference in favour of Barley, considerable importance attaches to the successful cultivation of it. We therefore ask indulgence of our readers if we seem to unnecessarily lay a stress of repetition on certain rules of action connected with the question. On January 3, 1901, we advised farmers to prepare for a dry summer by getting their spring corn sown at the earliest favourable opportunity. That early sowing benefited greatly the sower there can be no doubt, for the result, both in grain and straw, far exceeded the average of the season.

It is fairly certain that on average soil and all above the average in strength and condition, every suitable opportunity should be seized to drill Barley as soon as St. Valentine's Day is gone by. By suitable opportunity is meant the drilling of the seed in a suitable seedbed and in suitable weather. The weather we have to wait for, but as we often are favoured with bright sunny days in mid-February, it should only be a matter of waiting. A fine tilth is, however, another matter altogether, and one that is more often brought about by intelligent than haphazard or rule of thumb preparation. For instance, at the present time many fields from which the roots were consumed early were ploughed and left to frost influence. The frost came, and no doubt did its work, but the very heavy deluges we have lately been favoured (?) with have made the land little less than a mud flat. To get this in order for early sowing will not be easy, but it may be done. All land which is in this condition, or anything approaching it, we recommend should be reploughed as soon as it will carry the horses. It must be opened to the further influence of frost, and the rougher it turns up, the more effectual will be the action of frost upon it. It must not be allowed to dry too much before ploughing, as time would be lost, and the opportunity of getting it turned over before the remainder of winter weather should visit us. We may have little more frost at all, but it is more likely to come soon than late. We shall apply the same rule to Turnip land not yet moved after eating off the Turnips. It will be ploughed as soon as all surface water has disappeared.

The proper ploughing of Turnip land is of great moment to the following crop of Barley. Too often the ploughing is done in a slipshod manner, and the sole, if the loose soil be carefully removed, may be found in a state of ridge and furrow, brought about by the plough not travelling in a level manner. If ploughmen, especially lads, are not closely looked after, they will generally tilt the plough towards the unploughed side, because it is easier work for both them and the horses; but to get an even sample the soil must be evenly turned over and a flat sole left. If the ploughing be done badly, it is often not difficult to distinguish lines, or ribs, in the way of difference of colour in the earlier stages of growth, especially when the Barley is drilled across the ploughing. This difference may disappear in a superficial way later on, but may remain and exercise great influence on the even quality of the sample.

Some people would prefer to use the spring cultivator to loosen soil surface sealed by heavy rains, and the process might be effectual for the lighter classes of soils, but for heavy soil we think it would not be sufficiently drastic. As every gardener knows, there is nothing to equal the spade. The fork may be useful for cleaning purposes, but, like the cultivator, it lacks thoroughness. To live we must breathe, and it is the same with plant life. The more air we can succeed in suspending in the soil the more active and healthy will be the plant life with which we tenant it.

When drilling time approaches and the weather promises well, no time must be lost in giving the land the final touches. To break it up from the ploughing, a crossing with the spring tooth cultivator will prove the best process.

For light soils this implement used two or three times over and followed by harrows, may prove to be sufficient, but for heavy soils it is not so efficient. It stirs and lifts the soil, but does not have a sufficiently disintegrating effect. For this purpose we must have a strong set of chisel-toothed harrows, which will require all the strength of three good horses. With these harrows used alternately with a heavy roll there should be no difficulty in quickly obtaining a suitable tilth. But supposing the soil is too damp for rolling, or the weather is too showery? Well, then the land and weather are not suitable for Barley sowing. The land must be dry, and, if not actually dusty, must be nearly approaching that condition.

But there is another matter that must not be forgotten in preparing for a Barley crop after roots eaten on the land—we mean the management of the sheep as regards folding and feeding, so as to evenly distribute the animals' droppings. The grazing of Turnips without the cutter and without cake invariably results in an even crop of grain, but as soon as we begin to use Turnip and cake troughs the day of careful supervision begins. The Turnips or Swedes should not be trimmed into too large heaps, and the cutter being brought to the side of more heaps, there will be less tendency to keep the troughs long in one place, but in any case the troughs must not be arranged around the heap to save carrying, as we often see, but in a line at equal distances, and they should be moved twice a day. No two meals should be given on the same position. There should be plenty of room for the sheep to fall back on. Eighty yards of back fold is not at all too much, and the cake troughs should be some distance, say forty or fifty yards, behind the Turnip troughs, and they also must be arranged with equal precision and constantly moved, care being taken not to place them in positions lately occupied by Turnip troughs, but between such places. Turnips refused by the sheep and left in the troughs should not be simply turned out and left in heaps or ridges, but spread about. Farmers cannot afford to waste any this year, but there are a good number of cankered and woody bulbs this year which sheep will not consume unless they are pined to it. We have had two seasons none too favourable for the Barley crop; may the coming one do something towards making up for their deficiencies.

Work on the Home Farm.

Farming matters are in much the same condition as last week. Drying winds had improved things a little as regards the surface, but two wet nights have made everything as wet as ever. Some farmers are knocking off the horses' corn and giving them a rest, but here, fortunately, the demand for Potatoes for America continues, and although the roads are heavy going, we are glad to so keep our animals employed, whilst at the same time realising produce which promises to be a drug in the spring. The price is a low one for such fine quality, but growers in this district seem inclined to take it. Potatoes are not keeping well, and some growers are turning their stuff over with a view to speculation for higher prices. Disease seems to have spread since the crop was stored, and many of the tubers are sprouted, which shows that there is warmth more than is natural at midwinter. The new variety, "Professor Maercker," is coming out of the pits splendidly: the size cannot compare with Up-to-Date, but there is absolutely no disease. The men say there has not been one diseased Potato noticed, and the quality is much improved with keeping. It is very firm yet, and should be grand for spring use.

The Turnip land is still like a quagmire, and although the sheep are run on grass as much as possible, they must be on Turnips a few hours every day to get a belly-full. The roots cannot be carted off, for there is difficulty enough in getting a supply for the cattle. A good big heap of Swedes, stored by the side of a good cart road, would be invaluable now. The weather is helping us to economise Turnips, but it is at the expense of due progress on the part of our stock. "Fat goes in at the mouth," and the forced economy means later maturity. Bought food of every kind is dearer, and very dear. The price of Maize seems to be the chief active agent. A quarter of Wheat will not now purchase a quarter of Maize. Why farmers use any at all at the price passes comprehension, but we suppose it is the force of habit. They grumble but go on buying.

The fencing against stock on seeds and grass is nearly completed, but when the hedges are properly used they do not require very much attention. It is generally those which are neglected altogether which require the most thorns and stakes to make them good—and next to these are the weakly, too constantly trimmed hedges, which are full of small, rotten wood, and which a determined, hedge-creeping ewe can easily make a way through. These are the fences which find constant occupation for a shepherd throughout the summer, and a ready excuse for absence from any hard work which may be on hand.

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Journal of Horticulture.

THURSDAY, JANUARY 23, 1902.

Soil Cultivation.



IN the *Journal of Horticulture* some few years since, we had an interesting discussion on the subject of spring versus autumn or winter digging, and after a certain amount of argument, philosophic and otherwise, we were, I think, pretty much in the same place we were before the controversy commenced. Since those days some of us may have learned something more of the subject than we then knew, and at least a certain proportion of experience must have been gleaned.

The germ theory has gained ground and become a subject of more general belief than it was wont to be. That the land we tend season after season, year in and year out, and which we come to look upon more and more as something sentient and responsive to our care, is alive with organisms in an active or quiescent state according to the temperature of the soil, has become now a settled belief.

These organisms in the warmer months of the year are actively engaged in the work of converting crude manurial matter into a suitable form of nutriment for supplying the wants of myriads of hungry rootlets which at that period of the year may usually be expected to be foraging, hungrily intent.

The subject of digging, trenching, and manuring may at first sight be looked upon as a rather prosy one. But when we come to look further into the whole question, the theme, though old, opens up vast possibilities for wonder and amazement at the working of natural forces. Everyday sort of things, and common-place, in a measure some at least are repellant to more than one sense. Into the earth's all-receiving maw we press great stores of food, we tear the surface soil asunder into rough blocks and ill-shaped lumps, but

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the sweetening and mellowing influences of rain, frost, and snow and biting winds lend their aid in preparing this pantry of life for the rush and stir of another season. We delve deeply perhaps in our efforts at soil amelioration, taking time-honoured methods of "three spits and the crumbs" into our practice. Alack! it is more often a hurried attempt at "double digging" with some of us in these high pressure days that has to take the place of the more thoroughgoing ways of our forbears.

With this mere double digging, however, I have seen almost miraculous effects produced on land that has been scamped for some years, having been merely turned over a few inches in depth and given the smallest modicum of manure for crop sustenance. Ground, which before produced scarcely a single crop in perfection, was made to yield a greatly increased bulk of much higher quality. The means taken for this were simply to thoroughly stir the land two spits deep, incorporating with the bottom spit a good dressing of manure, and keeping the poorest or lower soil in its original position. A heavy layer of manure was placed above this, and the top spit of earth dressed with ashes from rubbish fires, turned over and kept, of course, uppermost.

The old theory of fallowing land for the sake of resting the soil is happily exploded. That where land has become through neglect a mere rubbish producer, summer fallowing may be of benefit for the sake of clearing off weeds, especially twitch and those of a deep-rooting nature; but I fear very little proof has ever been brought forward to show us really that, apart from cleansing, any benefit can be by this so-called resting accrue. And, at any rate, I know of no garden at the present time where plots can be set apart for such treatment.

By continuous cropping much may be done in keeping down weeds. Potatoes, as is well known, make a fine weed-destroying crop. Lifted in time for a crop of green-stuff to be planted on the same site, there will be a massacre of many weeds, and the greens ultimately covering the ground practically ensure cleanliness with scarcely any labour after a time. The aim of every good gardener is to so manage the land under his care that there shall follow an increase in fertility and productiveness; not aiming solely at one standard of excellence, but, despite all that is taken out of the ground, to improve its staple and increase its food producing qualities.

Here is a wide field for the exercise of skill, and bringing into operation methods gained by practical experience and study. We owe much in this respect to scientists, who of late years have taught that if the best is to be made of the land in a manurial sense, certain constituents must be in combination for certain crops, otherwise all our efforts can but result in partial success, or possibly total failure. It is well known that on all soils of a holding nature, manure may be applied to such excess that after a time land so treated becomes sour and unprofitable, unless a corrective, in the shape of lime or some similar substance, be given.

Thus we see that Nature's store-house for the food of plants needs not only to be replenished with needful elements, but it must also be kept sweet and clean, so that the food may be presented in the best possible manner, quickly taken up by foraging rootlets, and easy of assimilation in the plants' system when introduced. Nitrogen, phosphates, and potash must be present in the soil, as has been told over and over again. Sometimes one or more may be contained in land in sufficient quantity; or in very poor ground there will perhaps be a deficiency of all three. In any case, it is the gardener's duty to see there is no lack of either of these elements, so far as his means will allow.

Farmyard manure, though of many different qualities, we feel must ever be our great standby, if only for its power of mechanical amelioration. Superphosphate has proved many times of value in assisting; the same may be said of nitrate of soda and sulphate of ammonia, both so different in action from the first-named. Sulphate of potash and muriate of potash have proved serviceable for many crops, especially in fruit growing. Kainit, though of benefit in growing Potatoes, I have not fallen in love with; it may perhaps vary in quality too much, it certainly has given widely varying results.

After all we can do in digging and manuring, ridging, trenching, &c., unless help comes to us in spring time, in the

shape of the genial influence of sun-warmed air and earth, our efforts will be unavailing. We can but prepare the larder of good things, trusting to a higher Providence to set the wheels of life in motion, or to keep them slowly revolving through the cold of winter to be quickened into a free and fuller action at the proper moment.—J. W.

Dinner-table Decorations.

(Concluded from page 31.)

The practice of placing coloured silk along the centre of a table is not nearly so much in vogue as formerly, but when parties take place during many successive nights its occasional use provides a means of securing variety, and also of economising flowers. Each of these matters is at times of considerable importance. The effective arrangement of the silk would perhaps by some be considered a matter outside the gardener's art; nevertheless, it is one which is sometimes included among his multitudinous duties, and to his credit be it said that he is not slow in discovering methods of disposing it in an artistic manner. In the case of thin material, the great point is to have it a yard or two longer than the table; the length of its spread is then easily reduced by forming it into an undulating surface resembling miniature waves of the ocean, a little extra fulness being given here and there by pushing the silk to such points with the hand. Sets of china, glass, silver, gilded baskets, or rustic ornaments are suitable for arranging the flowers and plants in on such occasions, as they can be dressed in the flower room, and after being placed in position the finishing touches given. Manufacturers have during recent years placed so many pretty sets of various descriptions on the market that some of them are certainly within the reach of all interested in such matters. When gold, silver, or rare china receptacles are used, the decorator should, of course, take care not to hide them by a too lavish use of materials, although a light touch of greenery here and there will often enhance their beauty.

When baskets are employed a good effect may be produced by forming a groundwork of small Ferns and a few light Grasses, and then inserting flowers to give the necessary colour. Tulips are splendidly adapted for this kind of work. Smilax and any trailing variety of Asparagus forms suitable greenery for placing at various points on the silk; a few trails following the undulations are very effective, and when Tulips have the bulbs attached some may be arranged in a very natural manner—springing from the cloth—by hiding the bulbs in the folds of the silk. When yellow flowers are employed a few Violets scattered on the silk emit a delicious perfume, and look particularly pleasing. Yellow silk with yellow flowers and rather pale greenery forms a combination generally admired. Silk of a sage green colour with pink or rose-coloured Tulips or Roses, form delightful combinations, calculated to enrapture many having a "specialised" taste in regard to colour. Sage green may also be associated with yellow flowers; in that case the folds of the silk should be freely interspersed with flowers. Pink or scarlet silk answers well when white flowers are used. When white flowers and a white cloth are employed plenty of greenery may with advantage be used as a groundwork, both on the cloth and in the receptacles in which the flowers are arranged.

Everyone engaged in decorative work of the above description should endeavour to strike out from the "beaten track" occasionally, and introduce a novelty. Here is one which I have successfully carried out more than once. It might be termed a "nook from the wild garden." Cover the centre of the table with sheets of thick brown paper; cut the edges to secure an irregular shaped outline. Obtain from a hedgerow or woodland bank tufts or sods of grass of various sizes. It is easy to cut them up with a strong knife with very little earth attached. Place these thinly all over the table, raising them at some points to form mounds. Fill up the small spaces between the tufts of grass with moss, and lay a mossy stone here and there. Next procure a few tufts of the small round Rush and arrange at well chosen points to give lightness of surface. Daffodils, Tulips, or Iris are suitable flowers to use. If the former, retain the bulbs, and arrange them between the tufts of grass in thin masses and irregular lines, just as they may be seen growing in many a wild garden in spring. A little moss packed tightly around the bulbs will hold them in position, and the whole may be made to look perfectly natural. When Daffodils or Iris are employed it is usually necessary to wire the stems and leaves at the base, and before fixing them in position fasten a small coil of lead at the bottom, which will hold them in position. Those who have never attempted any arrangement of the latter description should certainly take the first opportunity of doing so, as when well carried out it cannot fail to please. By testing the plan on a table in the flower room, or in the garden, the possibilities of the idea may be easily conceived.—H. DUNKIN.

*Cœlogyne Sanderiana.*

Confusion is not unlikely to exist in other minds than that of "S. F. R.'s," who asks us to explain the characters of *C. Sanderiana*, and to state if, and where, it differs from *C. Sanderæ*. Well, we here illustrate *C. Sanderiana*, whose more

versant with the culture of these two would, probably, be welcomed by "S. F. R.," and others besides.

The Week's Cultural Notes.

Those growers who wish to be up to date in their Orchid growing will be anxious to try the experiment of growing them in leaf mould. A friend of mine, who has charge of one of the most celebrated of the Midland collections, has been using this material with the greatest success for some years now, and some two years ago, when I saw his plants thriving well in it, increasing in size of pseudo-bulb and number of flowers, I asked him his opinion of it. Like the careful cultivator he is, he had not put his most valuable specimens in this material, and his answer would have done credit to one of our greatest diplomats.



CŒLOGYNE SANDERIANA, nat. size. Native of the Sunda Isles, Malay Archipelago.

apparent features are its furrowed pseudo-bulbs, 2in to 4in long; its long, drooping racemes of snow white flowers, the lip with bright yellow disc, bearing six fringed keels, and the side lobes streaked brown. *C. Sanderiana* is not by any means common, and might safely be described as rare. It flowers during the spring months, and requires a stove temperature. *C. Sanderæ*, on the other hand, does not flower till later in the year, generally July, and the much smaller white flowers, with their orange blotch on the disc of the lip, are borne on erect spikes. The lip is beautifully fringed, which feature is distinctive. The latter is a very rare and beautiful species, and fetches considerably more money than the one we figure. It differs from *C. Sanderiana* in preferring an intermediate house. All representative collections should endeavour to include both. Notes from anyone con-

But in a letter now before me he has no hesitation in recommending it. "Have no fear to use it," he says, "for *Dendrobiums*, *Cattleyas*, *Oncidiums*, and *Odontoglossums*." In fact there are few Orchids, according to his showing, that will not thrive. Another noted grower says, "*Cattleyas* simply go mad in it;" and he has had several years' experience with it. We have all heard the croakers, and one of them declares that if Orchids are potted in leaf mould they must of necessity be given new material annually. It is nothing of the kind, according to my Midland friend, for he says, "My best plants have been in it for over two years," and "The great thing is not to overwater the roots."

This, I think, is the crux of the matter. The comparatively close nature of the material would be intensified by soaking it with water, and, doubtless, in this case the roots would suffer,

but kept on the dry side, and with the surface covered with moss to prevent too rapid evaporation, no doubt the Belgian leaf mould will be an aid to Orchid growers. Many of the grand *Odontoglossums* that are shown by our Continental friends at the Temple and other shows are grown in it, and their appearance is in itself a recommendation.

A noted West Country grower who, some twenty years ago, exhibited, perhaps, some of the finest *Dendrobiums* that have ever been staged, used to grow his *D. nobile* in the loose fibry material that collects in mixed plantations of hardwood trees and Conifers. His plan was to scorch the material over a wood fire, to drive out insects and kill any fungoid spores that may have been present. I know, too, that he was very careful to pick out all chance pieces of decayed wood, and his success was phenomenal. Any readers who have been successful in the use of leaf mould may, with advantage to others, send along their experience.—H. R. R.

Oncidiums.

(Continued from page 4.)

O. Batemanianum is of quite a different order, but a very pretty species; it is also known as *O. spilopterum*, but the name of the great orchidist cannot be kept too green, and it would be a pity to drop it here. It is one of the brightest of the small flowered sorts, and thrives in small, well-drained pots in the cool house.

O. candidum, or the Flying Dove Orchid, has small milk-white flowers, and is an interesting plant worthy of inclusion. It does best in small baskets, or suspended pans, close to the glass, in an intermediate house, and must not be dried off at any season. *O. carthaginense* and *O. Cavendishianum* are two fine species of the bulbous section, the former producing long loose spikes, bearing hundreds of whitish flowers heavily blotched and spotted with red, the latter stiffer, shorter spikes of bright yellow blossoms. *O. cheiophorum* is a small but showy winter-flowering species that should be in all collections. The blossoms are sweetly scented and very freely produced on healthy plants. It is a native of New Grenada, and must be kept well up to the light in the cool house.

O. concolor is a beautiful little plant with self-coloured canary yellow flowers. No difficulty will be found in its culture if kept to small pots or baskets in the cool house, and watered in accordance with the state of the growth all the year round.

O. Croesus likes rather more warmth, and is a distinct and showy plant, having a blackish purple eye-like blotch in the centre of each flower. Another charming species is *O. cucullatum*, with small flowers of pretty shades of rose and purple. This is usually taken as the type species of a group, consisting of *O. Phalænopsis*, *O. nubigenum*, and *O. macrochilum*, all of which are more or less distinct, but hardly sufficiently so to merit specific rank. They all like cool house treatment, and some, at least, of them should be included in all collections.

Another interesting species is *O. dasyle*, the flowers of which bear a striking resemblance to the native Bee Orchid of our downs and heaths. It does best in the Cattleya house, and the plants should be grown in small baskets or fastened to Tree Fern stem, cut into suitable sizes. Almost everyone knows the graceful old *flexuosum*, an easily grown and very floriferous species. Fairly large pots and a compost in which sphagnum moss predominates, suit it well. It thrives in the Cattleya house, and the tall, graceful spikes are very useful for cutting.

O. incurvum is a small flowering plant, but very pretty, the scapes being graceful and rather thickly set with white flowers spotted with rose. A native of Mexico, it is not a fastidious plant as to temperature, thriving well in either the cool house or that devoted to the *Lælias* and *Cattleyas*, from the same locality. *O. Jonesianum* is an entirely different species, and one that has puzzled growers not a little. It may be described as the king of the terete-leaved *Oncidia*, and when bearing spikes, with a dozen and upwards of the fine showy blossoms, no one will fall out with calling it a fine Orchid. It does best on blocks or in baskets, fully exposed to the sun, in a hot and very moist house. During the growing season it can hardly be over-watered, but when at rest much less water is needed.

The Butterfly *Oncids* *O. Kramerianum* and *O. papilio* need not be separated here, though most authorities consider them distinct. Both like plenty of heat while growing, and neither of them care for very much compost about the roots. Cork blocks, with a light surfacing of sphagnum moss, suit them well, and this may be allowed to grow freely during the summer and cut back in winter. A clear light all the year round is absolutely necessary for both. *O. Marshallianum* is one of the finest of *Oncidiums*; one of the finest cool house Orchids in cultivation, in fact, its fine showy spikes of clear yellow blossoms making a grand display in spring and early summer. Easily grown and very free-flowering, the grower has only to guard against letting it flower itself to death, this having been the fate of many fine specimens.—H. R. R.

Long-tailed Tits (*Parus caudatus*).

In response to "H. R., Kent" (page 39), regarding his inquiry as to the kinds of food the elegant species of the genus *Parus* subsist upon generally, I believe it to be strictly insectivorous, chiefly such insects as inhabit the branches of trees, and doubtless it was for the larvæ, or pupæ, of such that the birds in question were in search of, instead of the buds, as conjectured by your correspondent. In further respect to the insectivorous proclivity of the genus "Tits," while evidently the long-tailed Tit is solely so, its congeners, especially the active and perky Blue Titmouse (*Parus cœruleus*), known also as Tom Tit, is omnivorous, partaking as it does, especially during the winter, of not only insects, but such as fruits, nuts, and flesh of any kind; also grain from the sides of ricks. Adverting further to the habits of the Titmouse, in that unique work, "The History of Selborne," its author, Gilbert White, says:—"Every species of Titmouse winters with us; one species alone spends its whole time in the woods and fields, never retreating for succour in the severest seasons to houses and neighbourhoods, and that is the delicate long-tailed Titmouse, which is almost as minute as the golden-crowned (or crested) Wren; but the Blue Titmouse or Nun (*Parus cœruleus*), the Colemouse (*Parus ater*), the great Black-headed Titmouse (*Fringillago*), and the Marsh Titmouse (*Parus palustris*), all resort at times to buildings, and in hard weather particularly." The genial naturalist further says:—"The Great Titmouse, driven by stress of weather, much frequents houses, and in deep snows I have seen this bird, while it hung with its back downwards (to my no small delight and admiration), draw straws lengthwise from out the eaves of thatched houses in order to pull out the flies that were concealed between them, and that in such numbers that they quite defaced the thatch, and gave it a ragged appearance."

Apropos of the name, Long-tailed Tit, Dr. Leach proposed instead *Mecistura vagans*, Long-tailed Wanderer, as most appropriate, for such is its import, describing the most striking outward characteristic of the bird and its unvarying habit. Many of the provincial names of the bird are associated with the ridiculous. Thus: Long-tailed Muffin, (?) Long-tailed Mag, Long-tailed Pie, Poke-pudding, Huck-muck, Bottle Tom, Munn-ruffin, and Long-pod, pet names though they are, are also whimsical, and prepare one beforehand for the information that their owner is "just a little eccentric."

The nest of the Long-tailed Tit is of most exquisite workmanship and beautiful texture, and when "bird's nesting" during my boyhood the most coveted prize was to secure a nest of this species, and rendered additionally so if it contained from a dozen to a score of the tiny eggs ensconced among the lining of soft feathers.

Since penning the foregoing it may also be interesting to remark, as a somewhat remarkable coincidence. When strolling down a shady bye lane this morning (Friday, January 10), I came across a small flight of Long-tailed Tits busily searching for insects among the trees, but they speedily sought "pastures new." Their speedy retreat, however, was compensated for by the immediate presence of another equally interesting denizen of the woods in the shape of a solitary Gold-crest, or Golden-Crested Wren, apparently a female, incessantly flitting backwards and forwards along a dwarf Thorn hedge and a tarpainted wooden fence, diligently searching for insect food, and occasionally varying its movements by flying a few yards upwards after, to my own indiscernible visual organs, some tiny insect, thence returning to its former position.

The pretty little atom of feathers and fluff appeared to be wholly unconscious of its admiring spectator, and who, for ten minutes or so, closely followed it along the lane side. Returning after about a quarter of an hour's absence, I found to my surprise my diminutive acquaintance still pursuing its avocation much in the same place, and afterwards flew upwards amongst the branches of a neighbouring Elm tree. It has been remarked by a noted naturalist that he never observed a Gold-crest on the ground in search of food; probably not, but in my own case the specimen in question several times alighted for a moment or so upon the thickly scattered leaves along the lane side from the trees overhead, evidently in quest of insects upon the upper surface of the leaves.

Altogether it was really the most interesting experience I ever had with the feeding habits of the Gold-crest. In conclusion, it may also be remarked that I failed to hear it utter a note. The Gold-crest is said to be gregarious, but my little friend was evidently alone, and I protracted my time in watching its movements purposely to see if it had companions in the neighbourhood, but without avail.—W. G., Harborne, Staffs.

NOTES

NOTICES

National Sweet Pea Society.

The annual general meeting of the National Sweet Pea Society will be held at the Hotel Windsor, Victoria Street, on Tuesday, January 28, at 3 p.m.

Rose Conference.

Since the tickets of Fellowship to the Royal Horticultural Society were printed, the date of the Coronation has been announced, and in consequence the Rose Show at Holland House will be on June 24 (and, if the police arrangements permit, continued on the 25th). Please make this alteration on your tickets in ink so as to avoid error.—W. WILKS, Secretary, R.H.S.

Royal Horticultural Society.

The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, January 28, in the Drill Hall, Buckingham Gate, Westminster, 1 to 4 p.m. A lecture on "The Renovation of Old Fruit Trees" will be given by Mr. George Bunyard, V.M.H., at 3 o'clock. At a general meeting of the Royal Horticultural Society held on Tuesday, January 14, seventy-one new Fellows were elected, amongst them being Sir Randolph L. Baker, Bart., Lady Burnett, Dr. R. S. Charsley, and Dr. E. J. Fulk-Hart.

Blairgowrie and Rattray Fruit Growers' Association.

The annual dinner was held on Thursday night, January 16, in the Royal Hotel, Blairgowrie, N.B., when over 120 ladies and gentlemen were present. Ex-Bailie Howie, Rattray, president, occupied the chair. In proposing "The Blairgowrie and Rattray Fruit Growers' Association," Captain Proctor denied the allegation that fruit-growing was being overdone. Though growers were making little profit, he said the preserve manufacturers were growing rich, and the industry had suffered to a great extent because of the middleman, whom, he thought, should be done away with. He suggested a wider "combine" to deal with the manufacturers direct. Regarding railway rates, he thought they were too sanguine to expect the same terms as for the fish trade, but meantime the rates were prohibitive, and the railway companies might easily do something to help fruit growers. He also thought wealthy landowners in the district should reduce their rents for ground under fruit in cases where these amounted to £5 and over per acre.

The Middlesex C.C. School of Horticulture.

The Technical Education Committee of the Middlesex County Council having decided to establish a School of Practical and Scientific Horticulture, has, by arrangement with the Edmonton District Council, acquired a large piece of land, with six greenhouses, at Pymmes Park, Edmonton, for the purpose of carrying out this idea. The main object in view is to give a thorough horticultural training to those who are anxious to take up gardening as a profession. Opportunity will be afforded to school teachers to acquire a knowledge of horticulture by special Saturday morning lessons and demonstrations in the gardens. Only the best and most profitable kinds of fruits, flowers, and vegetables will be grown, and trials and experiments of particular crops or varieties will be carried out from time to time as occasion may require. Scientific training will go hand in hand with the practical lectures and demonstrations on the theory and practice of horticulture, the examination and classification of plants, the use of the microscope, &c., will be freely given. Students will also have the privilege of attending the lectures on Chemistry and other sciences at the Council's well appointed laboratories at the Tottenham Polytechnic. The County Council offers three scholarships of £20 to £30 per annum, according to the age of candidates. The work in the gardens will be carried out under the direction of the Council's Instructor in Horticulture, Mr. John Weathers, F.R.H.S., author of "A Practical Guide to Garden Plants." Prospectuses and further information relating to the School of Horticulture may be obtained from the Organising Secretary, the Guildhall, Westminster, S.W.

A French Honour.

Dr. Wittmack, editor of "Garten Flora," Berlin, has recently been named as Chevalier of the Legion of Honour, in connection with the Paris Exhibition of 1900.

Violets.

It is reported that Violets were more largely bought than usual by Covent Garden florists towards the fore part of last week, in anticipation of their being used as a mourning flower for the anniversary of the late Queen's death.

The Chrysanthemum Analysis.

We hope to publish Mr. Molyneux's analysis of the varieties of Chrysanthemum in our next issue. Growers should make sure of obtaining a copy; for six weeks past, in succession, the Journal has been out of print a few days after publication.

Weather in S. Perthshire.

In marked contrast to the preceding week, the past has been one of mild, often spring-like, weather. The change from 19deg of frost during the night of the 13th inst. was sudden and thorough. Rather high S.W. winds prevailed during Sunday and the following night, with frequent showers. Monday was dull, but pleasant, with a temperature of 44deg.—B. D., S. Perthshire.

Variorum.

Covering flow pipes with asbestos, where the heat they give is not utilised, works a valuable economy. * * An order for 35,000 fruit trees has been placed with the Central Michigan Nursery Company, by Henry Clay Ward, the millionaire lumberman and fruit grower, of Pontiac. The order is said to be one of the largest of its kind ever given in the United States. It includes nearly all commercial varieties of Apple, Pear, Plum, and Cherry trees.

N.R.S. Southern Exhibition.

We learn that for the National Rose Society's annual southern exhibition, in conjunction with the Devon and Exeter Horticultural Society, on Northernhay, Exeter, on July 4th, a considerable sum is required to be guaranteed towards the prize money. In addition to this there are local prizes, especially for Strawberries and summer fruit and flowers, and other expenses to be provided for, and as the society is now in low water, an appeal is being made for support, especially in respect to the Rose Show, the Guarantee Fund of which is headed by Sir Edgar Vincent, M.P., who is president of the local society. The deficiency on the general account of that organisation, which at the commencement of last year amounted to £29, is now £68, and it depends very much on the amount of increased support that is forthcoming whether the society will be in a position to hold the usual autumn show. The society is one of the oldest of its kind in existence, and it is a pity that it should become defunct through lack of public support.

Chester Paxton Society.

At a meeting of this society, held in the Grosvenor Museum on Saturday, under the presidency of Mr. N. F. Barnes, Eaton, Mr. E. Stubbs, Bache Hall Gardens, read an interesting paper, entitled, "The Culture of Chrysanthemums for Exhibition Purposes." Mr. Stubbs, who is looked upon as the champion Chrysanthemum grower of the district, dealt with his subject in a very practical manner, going minutely into all the details of the plant's life-history from its initial stage to the exhibition table. An interesting discussion followed, in which the chairman, Mr. Lamont, Mr. Wakefield, Mr. Ryder, Mr. Newstead, and others took part; and Mr. Stubbs answered several questions that were put to him. A gratifying announcement was made by Captain MacGillicuddy, who was present, and who very kindly offered to present to the society a challenge cup and money prizes for the best collection of plants of single varieties at the next exhibition. The captain also said he felt sure the society could organise a successful exhibition of spring flowers, and if this were undertaken, he would be pleased to lend it his support. Needless to say, these announcements were received with hearty applause; and in thanking Captain MacGillicuddy for his handsome offers, Mr. G. P. Miln said he felt sure the society would, in due time, take full advantage of both. The meeting was formally closed by a hearty vote of thanks to Mr. Stubbs for his able and instructive lecture.

Devon Gardeners'.

Mr. F. W. E. Shrivell, of Tonbridge, has been touring in the West, delivering lectures on the value of chemical and other manures, and on page 80, this week, we furnish an interesting and useful report of the lecture he delivered at Bristol. Mr. Andrew Hope sends us a report of a similar nature from Exeter, where the Devon and Exeter gardeners were privileged to hear Mr. Shrivell personally. Only by insistent stirring-up can any good be accomplished, and the Tonbridge experimentalist is at all events persistent in his efforts.

Hessle (Hull) Gardeners.

The above society have again been fortunate in securing the services of Mr. Gant, F.R.H.S., horticultural instructor to the Yorkshire College, Leeds. He commenced his course of lectures, January 7, the subject being "Plant Life and History," which proved very interesting. There was a good attendance. The second lecture, on January 14, was a continuation of the same subject, and proved equally as interesting and instructive. At the close of each lecture questions were invited from the audience, and to which Mr. Gant replied with satisfaction.—J. F. D.

Birmingham Gardeners' Association.

The annual meeting took place on the 13th inst., Mr. W. B. Latham in the chair. The proceedings of the past year resulted in a satisfactory balance-sheet. A re-election of the officers of the society was adopted, and Professor W. Hillhouse consented to again become president for 1902. At this meeting, in response to the prizes offered for two dishes each of dessert and culinary Apples, Mr. G. Stacey, Harborne, was awarded the first prize (a patent garden syringe, presented by Mr. H. Stone, brass founder, Birmingham) for fine and well-kept examples of Warner's King, Lane's Prince Albert, Fearn's Pippin and Golden Winter Pearmain; the second prize fell to Mr. H. Snead, gardener to E. M. Sharp, Esq., Edgbaston, also for well-kept and fine fruits of Golden Noble, Newton Wonder, Alfriston and Blenheim Pippin; third, Mr. J. Wheeler, Harborne.

Binfield and District (Berks) Horticultural.

This flourishing association held its annual gathering in Miss Shaen's Iron Room, which had been placed at the committee's disposal for that evening. This lady, who is a very active patroness of the society, had instructed her builders to enlarge the room so as to accommodate the members and friends of this rapidly increasing association, with the result that very comfortable accommodation for over eighty at the tables was provided. A meat tea was the first part of the programme, and for a second part an excellently arranged programme of music and singing, which received great assistance from several of the ladies of the district, who also acted as stewardesses at the tea tables. The financial condition of the society is in the most satisfactory condition; this being so, several schemes are to be considered at the next general meeting for the purpose of furthering the practical objects of the same. The secretary (Mr. Paine, of Marchfield Gardens, Binfield) is greatly to be commended for the manner in which he has conducted the business of the association, as without his indefatigable exertions it would have "dragged along" as many such societies have done and are allowed to do.

Cardiff and County Horticultural.

The thirteenth annual meeting of this society was held on Friday last, when a large number of members and friends attended. The chair was occupied by Mr. John Grimes, who gave a report of the past year's working. An available balance of £70 was shown in favour of the society. The next show is fixed for July 23 and 24. The following officers were elected: President, the Mayor; chairman, Mr. A. M. Bailey; vice-chairman, Dr. Hunt; secretary, Mr. H. Gillett; hon. treasurer, Mr. J. G. Todd; hon. auditors, Messrs. Bailey, Giller, and Telfer. The old executive committee were re-elected, and two vacancies caused by death were filled by the election of Mr. J. W. Botsford and Mr. Herbert Rees Jones. The schedule of prizes was revised, and the principal addition is that of an affiliated prize for the smaller societies round Cardiff, for which Messrs. Duncan and Sons, of the "South Wales Daily News," are giving a silver cup value £15 15s. It was also decided to continue the art section (painting and photography), the subjects to be flowers, plants, fruit, &c. The usual vote of thanks terminated the meeting.—H. GILLETT, Secretary.

Woolton Gardeners.

The gardeners, professional and amateur, in the Woolton district will be satisfied to note the very interesting report of the year's doings, and the notice of books contained in Woolton Library, which, according to the hon. librarian's report, are not used so freely as they might be. There are other particulars in the report to which we refer, and these we trust will be put under consideration.

Dundee Horticultural Association.

The first meeting of Dundee Horticultural Association for session 1902 was held in the Technical Institute on Thursday, January 9. Mr. David Croll presided over a large attendance of members. An interesting paper on "Hardy Perennials of Recent Introduction" was read by Mr. M. Chapman, Torbrex Nursery, Stirling, and an animated discussion upon it followed. A splendid exhibition of Tomatoes and flowering plants were on view, and elicited general admiration. During the past year the association has been making satisfactory progress; the membership stands at 110, and there is a balance at the credit of the association of over £6.

The Bristol Gardeners.

Prizes for three plants in bloom, given by the president, were awarded at the Bristol Gardeners' Society's meeting, a week ago, thus:—1st, Alderman W. Howell Davis, J.P. (gardener, Mr. J. T. Curtis); 2nd, Alderman J. Colthurst Godwin (gardener, Mr. McCulloch); 3rd, Mr. G. Price. For a shower bouquet, the first prize, given by Mr. Cornish, Black Boy Hill, went to Mr. Atwell. A special prize, offered by Mrs. H. Cary Batten, was won by Alderman W. Howell Davis; the third going to Mr. N. C. Dobson (gardener, Mr. Thoday). Certificates of merit were awarded to Mr. W. A. F. Powell (gardener, Mr. Raikes), for three Cyclamen; and to Mr. Arthur Baker (gardener, Mr. Orchard) for three vases Chrysanthemums. The lecture for the evening was on the value of chemical manures, by Mr. F. W. Shrivell, of which a report was furnished to us, and is printed on another page.

Meteorological Observations Taken at Belvoir Castle.

The following is a summary of the observations taken during 1901:—The prevailing direction of the wind was S.W. on eighty-eight days. The total rainfall was 21.54in, this fell on 166 days, and is 5.22in below the average for the year; the greatest daily fall was 1.46in (snow), on December 12. Barometer (corrected and reduced): highest reading, 30.666in, on November 24, at 9 p.m.; lowest reading, 28.742in, on December 24, at 9 p.m. Thermometers: highest in the shade, 88deg, on July 18 and 19; lowest, 9deg, on December 20; mean of daily maxima, 55.19deg; mean of daily minima, 39.66deg; mean temperature of the year, 47.42deg; lowest, on the grass, 8deg, on December 20; highest, in the sun, 141deg, on July 17; mean temperature of the earth at 3ft, 49.11deg; which is a little above the average. The total sunshine was 1.631h 30m; which is 130h 17m above the average for the year. There were fifty-nine sunless days.—W. H. DIVERS.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1902.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
January.										
Sunday ...12	S.W.	deg. 45.3	deg. 44.7	deg. 49.0	deg. 41.5	Ins. —	deg. 44.4	deg. 44.5	deg. 45.3	deg. 40.3
Monday ...13	N.E.	36.0	33.7	39.3	35.5	—	43.4	44.8	45.6	31.5
Tuesday ...14	N.E.	31.2	30.0	35.3	29.8	—	40.1	44.2	45.6	23.9
Wed'sday 15	N.W.	28.3	27.4	41.6	22.2	—	38.0	43.0	45.7	18.4
Thursday 16	W.S.W.	40.2	38.6	44.6	28.4	—	37.2	42.0	45.5	28.9
Friday ...17	S.W.	40.7	39.9	45.1	39.5	—	38.6	41.6	45.2	33.3
Saturday 18	N.E.	40.2	37.9	44.4	40.0	—	40.1	42.0	45.0	37.3
MEANS ...		37.4	36.0	42.8	33.8	Total. —	40.3	43.2	45.4	30.5

The weather during the week has been dull and misty at times, with a low temperature generally.

Dwarf Fritillarias.

A selection of the dwarf Fritillarias—those not exceeding 1ft or 15in high, must include the common Snake's Head Lily, *F. Meleagris*, so common in a naturalised state in the meadows around Oxford. Such others as *F. aurea*, *delphinensis*, *pudica*, *lutea*, *cantschatcensis*, *citrina*, and *racemosa* may likewise be named. True, all are not very showy. Many of these dwarf Lily-like flowers are only favourites with those garden lovers to whom all hardy plants appeal, and receive special sympathy. The little *F. pudica*, and *aurea*, for instance, might very easily be passed by, by those whose taste for such lowly gems has not yet been quickened. But these are just the pet favourites of he or she whose heart goes out to the tiny occupants of the rock garden or cosy corner of the hardy plant borders. Mr.



FRITILLARIA RACEMOSA AND *F. CITRINA*.
TWO SPECIES THAT ARE RARE IN GARDENS.

Arnott will probably have some notes of welcome to send when he sees the figure on this page. *F. citrina* is green, shaded with citron yellow, and is not showy, yet is truly a beautiful flower. *F. racemosa* (on the left) is coloured dark purplish chocolate, spotted with bright green.

Early Melons.

Where seed was sown early in January, and each separately in a small pot, a little warmed soil should be given as a top-dressing as the plants grow, having them near the glass to prevent drawing. Keep a sharp look out for slugs. A ring of dry soot or quicklime placed round the plants will generally preserve them, but these pests and woodlice may be trapped by placing a little bran on a slate and inverting the half of a Swede or Mangold Wurtzel, with the centre scooped out and notched at the lower edge to admit the molluscs and the crustaceans to the hollow, over it, examining in the morning for the woodlice and in the evening for the slugs.

Soil should be placed under cover, so as to become dried pre-

paratory to forming it into hillocks or ridges in the Melon house. Good strong yellow or hazel loam is suitable for Melons, and if it has been laid in ridges, so as to reduce the herbage, it will be in a fitting state for the purpose. If deficient of grit, add a fifth of road scrapings, and if not of a calcareous nature a similar proportion of old mortar rubbish. If there is need to add manure, nothing is better than fresh but sweetened horse droppings. The composition in that case would be four parts of loam, one part each of horse droppings, road scrapings, and lime rubbish.—POMONA.

Strawberries in Pots.

Proceed steadily with plants that are not required to give fruit at a particularly early stated time, especially in severe weather; 50deg to 55deg is ample for those started in December, and 60deg to 65deg by day, erring, if at all, on the safe side, the low; therefore 5deg less in cold weather, and in the absence of sun, is advisable. Ventilate whenever there is a chance; the trusses rise boldest and the flowers are strongest when the plants have the foliage well elaborated. Close atmosphere induces soft tissues, weakly organs of fructification, imperfect sets, and deformed, ill-shapen fruit.

Introduce more plants to shelves in Peach houses and vineries started about this time. Rectify the drainage of the pots, remove moss or other matter from the surface of the soil, and wash the pots clean. Surface-dress with an approved fertiliser, mixed with a little rich soil, or use fresh horse droppings rubbed through a quarter-inch mesh sieve, and give each pot about half a teaspoonful of the fertiliser, which will be washed in fast enough.

Strawberries require phosphoric acid, potash or soda, and nitrogen, therefore the manure should consist of bone superphosphate five parts, sulphate of potash three parts, and nitrate of soda two parts, mixed, taking care to have the nitrate finely powdered. Royal Sovereign is a fine Strawberry for either size or quality. Noble is an excellent kind for introducing now to fruit in April, also Auguste Nicaise, the latter being the brighter fruit. President, Sir Joseph Paxton, and Sir Charles Napier may also be introduced; and the very desirable, but seldom forced, variety, Lucas. To maintain the succession of fruit unbroken, plants of La Grosse Sucrée and Vicomtesse Hericart de Thury must also be introduced at the same time.—GROWER.

Early Cauliflowers.

The plan formerly adopted in securing early Cauliflowers, namely sowing in September, pricking out the plants in frames or sheltered place for the winter, is not so generally followed now. It is, however, an excellent method of culture, especially if handlights can be placed over the plants to protect them from severe spring weather after planting out. The square handlights, with moveable tops, are the best, because abundance of air, which is very essential, can be readily given, and the plants fully exposed on favourable occasions. When planting for covering with handlights, presuming these are of fair size, a plant may be placed in each corner, for by the time the plants are large protection can be dispensed with. The seedlings ought not to be wintered in rich soil, but when planting out, it is desirable to afford them such. Early in April is a good time to plant them out.

Many prefer to raise plants from a January sowing rather than have the trouble, and occupy space, by wintering them. An early sowing answers well if such varieties as First Crop, Snowball, and other first early sorts are cultivated. Very little heat is required to germinate the seeds, which may be scattered thinly on the surface of the soil in a box, covered lightly, and sprinkled, then set in a greenhouse or vinery. When the seedlings appear plenty of ventilation must be given to maintain them sturdy.

Prick them out in boxes or frames when rough leaves appear, giving them 4in of space in good soil, over a layer of manure. The latter is useful when dividing and lifting the plants for permanent planting. The seedlings, after pricking out in boxes, must not remain too long under glass, but should have frame treatment, so that abundant air may be given at all times when the weather is favourable, gradually inuring them to the open air, for planting in late April or early May.

Successional supplies are obtained by making a further sowing of Autumn Giant, which is one of the best varieties for late summer and autumn. This sowing also may be made in a pan or box, subsequently pricking out the seedlings in boxes, and transplanting them at the end of May into rich and fertile ground. Another batch must be planted from an outdoor sowing made at the beginning of April. These will be ready for planting in June.—E.

Raising Cucumbers in Frames.

Persons who do not sow seed before February often cut fruit quite as early as some do with an inadequacy of heat-furnishing materials, and who sow at the new year. The material for making up the bed for raising the seedlings being in a fit condition for turning over and mixing with leaves, so as to induce a sweet regular heat, a site for a bed should be chosen with a full southern aspect, and having shelter to the north, as that of a hedge or wall. If the ground be rather higher where the bed is to be formed than the surrounding ground level, all the better. Mix and beat the materials well down with the fork as the work proceeds, making the bed about 5ft high at the back and 4ft 6in in front, which will allow for settling, as it will do about one-third. A few Pea sticks placed across and along the bed at intervals not only prevents overheating, but admits the heat from the linings being conveyed to the interior of the bed.

For early work frames with an inner lining are an advantage. They are formed by placing $\frac{1}{2}$ in boards 11in in depth at the back and 9in in front, with the bottom edges level with the bottom of the frame, nailing strips of wood an inch wide and thick on the inside of the box, and then the boards, which form an inch cavity all round the inside of the frame, and thus top heat is furnished. In a week after making up the bed and putting on the frame and light, level the surface of the bed and replace the box, and put in sufficient sweetened fermenting material to raise the inside to within 4in of the inner frame or casing, placing partially decayed rather dry leaves or sifted spent tan on the manure, for plunging the pots in about 3in.

For raising the plants, 3in pots are half filled with light rich loam, placing one seed in the centre of each pot, covering about half an inch of fine moist soil, so that no water is needed for the germination of the seed. Space is thus left in the pot for top-dressing, which is preferable to potting the plants. A square of glass placed over each pot will hasten the germination, but it must be removed as soon as the plants appear. The plants from a sowing made early in February will be ready for planting out early in March, and will afford fruit at the end of April or early in May.—G. A.

The Value of Chemical Manures.

Under the auspices of the Bristol and District Gardeners' Mutual Improvement Association, a most instructive lecture was given in St. John's Rooms on Thursday, January 9, by Mr. F. W. E. Shrivell, F.L.S., F.R.H.S., of Golden Green, Tonbridge. His subject was, "Chemical Manures in the Kitchen and Fruit Garden," and was based upon the results of seven years' experimental work carried out in conjunction with Dr. Bernard Dyer, E.I.C., F.L.S., F.C.S. H. Cary Batten, Esq., President of the Association, presided over a good attendance, and was accompanied by Mrs. H. Cary Batten, who also takes a deep interest in the work of the society. The president, introducing the lecturer, alluded to the great importance of the subject to the district, where so much attention was devoted to agriculture and horticulture.

Mr. Shrivell, who illustrated his remarks by a series of diagrams, explained that for many years dung was the chief manure both for the farm and garden, but they were now trying, by means of a series of experiments at Tonbridge, to discover whether it was better to use large quantities of dung, or to use a smaller quantity with chemical manure, or to use chemicals entirely. With regard to the system upon which their experiments were conducted, the land on which each vegetable or fruit was grown was divided into sections, each being in area a fiftieth of an acre. One section was manured with heavy dressing of dung; a second with light dressings of dung; a third with chemicals only; and the other three with a light dressing of dung, an ordinary dressing of phosphatic manure (either basic slag or superphosphate of lime) and varying quantities of nitrate of soda. Diagrams were shown, proving that after seven years' experiments, the best result was obtained by employing a small quantity of dung with the use of chemical manures, this being specially noticeable in the case of Broccoli, Potatoes, &c. Nitrogen, phosphates and potash were the elements of farmyard manure. The value of dung was that it was such a marvellous mechanical agent. On light sandy soil, for instance, in dry weather it tended to keep moisture in the ground and prevented evaporation. In the clay soils it tended to lighten it and aerate it to a very considerable extent. That was the great advantage of farmyard manure or what was ordinary called dung. But it had a great disadvantage, and that was its cost. Speaking

With Regard to Fruit

the lecturer said experiments had been made by treating its culture in the same way as the vegetables were treated—heavy

dressings of dung, light dressings of dung, plus chemicals, and chemicals alone. He had experimented on Gooseberries, Black Currants, Red Currants, Raspberries, and Plums with light dressing of dung, plus chemicals, and with chemicals alone; and induced some interesting information upon the effects on the different fruits. For the purpose of bush fruits—Currants, Raspberries, Gooseberries, &c., the quantities for 100 square yards (broadcast) should be 10lb. superphosphate, 10lb kainit, to be applied during autumn or winter, and in early spring 7lb to 10lb nitrate of soda. With regard to Strawberries, experiments showed that they could not grow Strawberries entirely by the aid of chemicals, but that with a light dressing of dung added to chemicals, they would be much more satisfactory to the grower. Chemical manures were also useful for the purposes of growing Onions, Beet, and Celery. With regard to the latter, he knew that most gardeners were much in favour of sewage, when they could obtain it, but he strongly advised them never to use sewage, for there was a great objection to its use in growing any vegetable that was eaten raw. Sewage should never be used for anything that was not cooked. By its use in this respect, they were apt to spread such diseases as typhoid and diphtheria. In the use of chemical manure for Celery, they would have to use discretion, but they would find that a small quantity judiciously used would ensure a splendid crop. Then, again, they could make a good liquid manure for Cucumbers and Melons. One ounce of nitrate of soda in a gallon of water used once or twice a week would considerably assist them in growing these. Chrysanthemums again were the most difficult plants to deal with; a light liquid manure of half-ounce of nitrate to one gallon of water, might be used when the buds began to form, but they should stop to use it when the buds began to break. In the kitchen garden, chemicals for 100 square yards, with half a load of farmyard manure, should be used thus: Superphosphate, 14lb; kainit, 10lb. This should be dug in with the manure in autumn or early spring; and later on they should sow on the surface 10lb of nitrate soda in two or more dressings.

After referring to the dressings for herbaceous borders (basic slag, 14lb; kainit, 8lb, pricked in in autumn; and nitrate of soda, 8lb, in March and April, to the 100 square yards, Mr. Shrivell spoke on another subject which he said was important, and especially to the professional gardeners. This was

The Subject of Lawns.

He knew that many gardeners were troubled with Daisies and different weeds on lawns. He thought that wherever they had got a ground with a tremendous quantity of weed on it, that told the tale that the ground was really very poor. If he gave them something to make their lawns grow, they should not grumble at him if they had to cut the grass more often. There was a suggested dressing for a lawn of 100 square yards—14lb of basic slag with 9lb kainit, and a later dressing of 5lb of nitrate of soda. This combination was a plant food to produce the finer Grasses and Clover, while it would do away with the Daisies and commoner weeds in a lawn. It did not follow that if they put this on one year that they need put it on the next. The basic slag and kainit had a tendency to stimulate the growth of Clovers; and if they did not want Clovers, they must keep these two away; but if they wanted a little Clover or Trefoil, put it on. That would do away with the Daisies. Whenever they saw a meadow full of Daisies and Buttercups, they knew perfectly well that, as a rule, it was a poor meadow. They must use nitrate alone if they did not wish to grow Clover. His own feeling went to the balanced manure. It was very rarely that lawns had a dressing; the only thing they ever got was a little lawn manure, which was simply sand plus nitrogenous manure. The lecturer gave many other instances of the value of chemicals, and concluded his address amid applause.

[We must apologise to the Bristol gardeners for having held over this interesting and valuable report. Necessity has no law!—Ed.]

The Value of Sunflowers.

The first year of the twentieth century closed with a curious sale on the Baltic of a cargo of Sunflower seeds, which changed hands at £11 5s. per ton. Though a small trade has been done in Sunflower seed for close on 200 years, this transaction was the first in which a whole cargo—300 tons from Odessa—was dealt with. In Russia, where the cultivation of the Sunflower and the manufacture of oil from its seed is conducted on a large scale, the grandiflora is the variety sown. So rich is it in oil that the seed of one of these monster plants will yield fifty gallons of oil, while the refuse of the seed, after this quantity of oil has been expressed, weighs 1,500lb when made into cattle cakes. Few people in England who grow the Sunflower for ornament have any idea of its usefulness. It is among neglected crops in which there is money. The leaves furnish an excellent fodder, while in Russia the stalks are prized as fuel, and their ashes, which contain 10 per cent. of potash, are readily sold to soapmakers.



Nuts for Human Food.

The scientist-traveller, Alexander von Humboldt, one of the wisest men of the nineteenth century, a wonderfully practical man and a close observer, estimated that a Banana orchard will feed twenty-five human beings where a Potato field of the same size would support but two, and a Wheat farm only one. He also ascertained that Chestnut groves, with full grown trees, produce six times as much food per acre as any cereal crop. In view of these facts it has been suggested that a time may come when the staples of human food will be mainly derived from trees, greatly to the advantage of the race. When our deserts are reclaimed by irrigation and Date Palms, Mesquite, Bananas, and other fruit trees cover them, there will be a vast increase in palatable and nourishing food.—("American Agriculturist.")

Pyrus japonica var. *cardinalis*.

Conspicuous among the numerous varieties of *Pyrus japonica* by reason of its large, richly-coloured flowers, is the subject of this note. It is also distinct from the other species by reason of its earliness, flowers usually being open several weeks in advance of any other. In general appearance of growth and leaf little difference can be detected from the type; the flowers are, however, of a lovely deep red, and often exceed 2in in diameter. Like the type, it may be expected to blossom more freely when grown on a wall than when grown as a bush, though it is amenable to cultivation under either method. When grown on a wall it should be pinched in summer when the shoots are soft, so as to throw all the strength into the production of flowering spurs. At the present time (January 11) a plant on a wall at Kew is just commencing to blossom, and should the weather keep mild will be a fine sight by the end of the month.—W. D.

Iris pumila.

Few plants have delighted the writer more than the dwarf Iris, *I. pumila*. Not that it is a remarkably showy plant for general garden purposes, although it is fairly good in that respect, but more because of its many unique characters. It is just as dwarf as can be, the little tufts of foliage being little more than 6in in height, and the bright flowers usually nestle amongst them. There are several varieties of *pumila*, but one of the best is a rich shade of purple. It is the earliest of all Iris to flower in spring—so early that its inclinations advance the blooming period to the previous year, and one may see numerous flowers in late fall—in fact, among a number of plants there are nearly always a few flowers in sight. This Iris will be recognised as being very valuable for bordering beds or clumps of other Iris, or for bordering any beds of herbaceous plants. The species of Iris are so numerous in cultivation, it is an easy matter, by careful selection, to have a bed of continuous bloom for many months.

Amaryllis Belladonna.

The following is a notice of the system of culture practised by a grower at Newport, R.I., U.S.A., and given in the "American Florist." It may be mentioned that a photographic illustration of his *Amaryllis* in flower appears, and shows so many as fifteen splendid spikes of strong flowers in one 9in or 10in pot. "The bulbs are grown in a small brick pit 3ft deep. There is 1ft of stone in the bottom for drainage, and about 18in of rich loam, the bulbs being planted 4in to 5in below the surface. Early autumn is the best time to plant, or else the first of summer, after the foliage is off the bulbs. After the flowering season is over, when the foliage begins to show, scrape off some of the surface and top-dress; keep well watered, and attend to getting a good, healthy growth of foliage during the winter. Protect from frost by banking the frame and covering the sash with mats, &c., and air on all occasions as the weather will permit. Dry off in the summer, allowing no water until the spikes or foliage begin to appear. The flower spikes measure 2ft to 3ft in height, so they want plenty of head room."

Lilium longiflorum *eximium*.

It is estimated that Bermuda exports from £15,000 to £20,000 worth of bulbs annually of these Lilies to New York and London; Japan exports about the same amount of money, and as these Lilies are thrown away by nurserymen after they have sold the flowers, instead of a decrease in the demand, it has been annually increasing, since its value as a cut flower and for forcing was discovered in 1882. The flats around Cape Town (says Mr. Barr, in the "Cape Times") could be profitably used for the production of this Lily, and an industry started which would add a nice little item to the profitable exports of the Colony.

Saxifraga crassifolia.

The evergreen character of *Saxifraga crassifolia* makes it very attractive at all times of the year, the broad, bright green leaves being conspicuous in summer, and also in the bronze shades in winter. It is almost the first flower to bloom in spring. So anxious are they to bask in the warm spring sun, the flowers peep out from amongst the low leaves before winter is fairly gone, and in such haste they are not borne on stems as they are later in spring, and as illustrated in "Meehans' Monthly," Vol. X., No. 5. This early spring-blooming character naturally lends the plant to good forcing privileges, an attention it has not yet received.

Outdoor Vines.

The pruning of these ought now to be finished. If furnished with strong rods the side shoots may be shortened to one or two buds. One bud is enough to leave if it is of a plump character and certain of showing fruit, otherwise leave two. Should any space require to be filled with young canes, leave several as near the base as possible, shortening them to 3ft or 4ft. After pruning, wash all the rods and spurs with an insecticide consisting either of 4oz of softsoap or 8oz of Gishurst compound to the gallon of hot water. Then retrain, but the young canes should be depressed to an horizontal position until they break into growth. If the soil is somewhat poor it will be desirable to remove the top crust down to the roots, replacing it with fresh material consisting of loam, decayed manure, burnt earth, and a sprinkling of Thomson's Vine manure.—D. S.

Acacia Baileyana.

The great genus *Acacia* numbers among its many species many which are of exceptional value horticulturally, but are little known. The one under notice is not often seen, but is a useful plant. It grows naturally into a good-sized tree, and is quite distinct in general appearance from any other species. The whole plant, leaves and stems, are covered with a glaucous hue, the bark being quite white. The flowers are in racemes 2in long, the racemes being borne from every leaf axil on last year's wood. As in most other *Acacias*, the flowers are yellow, but in this case the shade is deeper than is usually the case. It flowers with the earliest set in January, and the flowers last in good condition several weeks. After the flowers are over, it should receive a good hard pruning to keep it within bounds, and to encourage good wood for next year's flowering. In the Temperate House at Kew a plant may now be seen in flower.—W. D.

Daphne indica *rubra*.

This precious little gem seems to be uncommonly scarce in the United States. "I send you some cut sprays of *Daphne indica rubra* (writes a correspondent in an exchange), a plant now seldom met with; indeed, I question if a dozen plants can be found in the United States. After a deal of trouble, I succeeded in procuring a few plants from England last spring. As far back as I can remember, the plant was always as scarce as 'hen's teeth,' and for the reason that no one cared to take it in hand, or understood its propagation. It is a shy rooter at all times, and, moreover, a slow grower. It comes under the head of greenhouse evergreens. Plants in 4in or 5in pots are easily worth 75 cents to 1½ dollar. The best method of propagating this variety is to work it on stocks either of *Daphne Cneorum* or *D. laureola*. In this way comparatively vigorous plants can be obtained, fit for sale in one year. Take a sniff of the blooms sent you, and imagine, if you will, the effect of a few thousand plants being on the market just at Christmas. One spray will perfume a whole house. Another case of neglected beauty."

The Seed List.

(Continued from page 63.)

Tomatoes

have a flowing rather than an ebbing tide, the increase in numbers of newer kinds and special selections still going on. Becker's XI All proved one of the best among our last season's selection. It has a medium-sized, smooth, good flavoured, and nice looking fruit. The Cropper, too, is a favourite, as is Frogmore Selected, Ham Green, Crimson King, Brooks' Freedom, Up-to-Date, Challenger, and Chemin Rouge. These are all standard kinds, grown more or less by everyone; but who among the many growers of the day, amateur and professional, is there who has not a seedling or selection, either their own or that of some friend, which is considered in some degree better than existing named ones?

Cabbages,

like Potatoes and Tomatoes, rank among the everyday necessities, and to enumerate all the desirable kinds would need much space, and after they had all been brought up I think it would be a somewhat delicate matter to say which should have the better prize. There is, however, a very great unanimity on the merits of Ellam's, a variety that has stood the test of time. Sutton's Flower of Spring within the last few years has been having a race with it for place and popularity, and certainly in some quarters it has gained it. St. John's Day, Sutton's April, Imperial, Sutton's and Wheeler's—so widely distinct, and yet so excellent—are good for autumn sowing.

For winter cutting, Christmas Drumhead is most useful and reliable, and the Coleworts are indispensable, and when well grown are as tender, full-hearted, and good as Spring Cabbages. Savoy is numerous by name, and of late years some considerable advances have been made both in character and season. Bijou is a favourite for midwinter, a small, nicely curled, and hard-hearted little Cabbage that is sure to become better known. Sutton's New Year is a larger curled Savoy that, as its name implies, supply the kitchen when the early plantings are over. It is then when they are the most valued. The Dwarf Green Curled is still a good one; so is Sutton's Perfection. Many stand by Gilbert's Universal as a Savoy of the finest quality, which it undoubtedly is.

Onions

are really multitudinous, but of them it may be said very truly "Still they come." There are Onions for home use, Onions for "show," and Onions for pickling, and it is not a very great trial to have to choose some, if either, from any catalogue. The fashion that now obtains so strongly among almost every class, of raising a portion of the Onion crop in boxes, has given a direct and a desirable stimulus to the growth of the high class exhibition Onion, of which Ailsa Craig is a type.

Almost the same remark applies to Cucumbers, which are numerous, beautiful in shape, varying in colour, and all, of course, of the better quality. Inferior ones are not found in catalogue descriptions, and certainly nowadays there is no need to find them growing. It is almost invidious to particularise, because there are so many of high rank—Sensations, Challengers, Models, Prolifics, Telegraphs, Satisfactions, Matchless, Prizewinners, Everydays, Rochfords, and last, but not least, the Field Marshal Lord Roberts.

Lettuces

may give some little trouble in picking out those most suitable for the summer, the soil, and the taste of the consumer; but this is a matter that requires individual trial and judgment. Some kinds do better in one garden than another, the flavour of some give greater pleasure than others at the table, and the two sections, Cos and Cabbage, each have their adherents. Commodore Nutt and Golden Queen are small but first class for frames and earliest outdoor cutting from spring sowings, Paris Market coming next in earliness. Sutton's Heartwell and Favourite are beautiful summer Lettuces, as is also Supreme. Perfect Gem is a favourite because of its symmetrical head, close heart, and good flavour. New York, Dickson's Emperor, Neapolitan, and The Favourite are curled-leaf kinds that resist summer droughts well, and are pleasing in appearance and flavour.

The superb White Cos comprise by selection a very fine strain of summer Lettuce—self-folding, crisp, and exceedingly sweet. Paris White is probably a pioneer of the

Superb, and still a good Lettuce, as is also Paris Green. The last is a good one for late summer, because it withstands the vicissitudes of the most trying weather with much persistency. Sutton's Little Gem is a distinct and new departure in Cos Lettuces, and Intermediate, another good kind for autumn use. Hicks' Hardy is a fine variety for all seasons, good in every respect. Bath Cos needs no praise. Imperial Leviathan and Mammoth are other summer Lettuces that are favourites with some because of their great size.

General Observations.

Though in the majority of vegetables it is advisable to stand by older proved varieties, it is well always to advance a step or two forward off the beaten track in choosing some of the newer kinds; this not only encourages a higher standard of material, but increases materially the interest in the garden and its crops. Anticipation should go hand in hand with realisation. Without some little aspect of novelty, vegetable gardening becomes dull, monotonous, and uninspiring. Ambition in the perfection of his crops is a ruling element in the life of the average gardener, and this is not fostered by retrogressive or stationary methods. Employers do not always act wisely in the exercise of economy in the seed bill, restraint often means crushed ambition, which in vegetable cultivation is not likely to raise men to the higher standard of proficiency. But while this is true, it is inadvisable to attempt to rush to the other extreme. This is sure, sooner or later, to meet with reverse. It is much better to move steadily forward than to fall in the act of hasty flight.—W. S.

Camp Hill, Woolton.

This beautiful residence is delightfully situated on the high ground of Woolton, in a rich and fertile valley, with the River Mersey beyond and the Welsh mountains in the distance, giving a landscape picture that the French would designate as "ravisant." It is quite one of the best kept gardens in the neighbourhood of Liverpool, few gentlemen or ladies taking a greater delight in seeing the rich horticultural treasures brought to the highest state of perfection than the esteemed and philanthropic owners, F. H. Gossage, Esq., and Mrs. Gossage.

In this they are ably seconded by Mr. Joseph Stoney, their head gardener, a thoroughly practical cultivator, as those who have made his acquaintance will readily admit. Having promised on several occasions to give a call, I thought the most appropriate time would be when almost everything was at its best, although I was fully aware that the trying summer weather must account for something being seen to disadvantage; but in this I was agreeably surprised—save for the fact that the lawns had suffered somewhat. The house is approached by a long winding drive, handsomely laid, at great cost, with asphalt, and which, from all appearance, will last an ordinary lifetime without repairs. On the left of this, a shrubbery, filled with the choicest of Hollies, Evergreens, and Coniferae, the best of herbaceous plants in the foreground, and a grass border for an edging, possessed many charms for all who love flowers and shrubs, apart from the natural appearance as a whole.

In the distance, across the park, the rich tones of the Golden Elder and the huge trusses of the Crimson Rambler brightened up the more sombre subjects associated in a large shrubbery that has recently been planted to hide a dingy corner. Useful and ornamental this may be called, as many of the best Apples and Pears are luxuriating in front, and already caring for their new quarters. Coming nearer to the house, a fine belt of trees extends the whole length of the back portion, and with the exception of a small group of shrubs which is noticeable at the front, the lawn is gently undulated until it reaches the park rails. Thus there is nothing to mar the beauty of the scene. Before entering the substantially built glass houses we come across a bright bit of flower gardening in sunken beds, the site of which was once occupied as a quarry.

The first house entered was the Palm stove, filled with huge examples of Kentias chiefly, a narrow stage in front being utilised for the warmer kinds of Orchids when in flower, but at present with Anthurium Scherzerianum, splendidly flowered. Opening out from this is a rockwork nook filled with Ferns and Begonias, the cool pond and gravel floors giving a natural setting. A three-quarter span range of wide houses was then entered, the first being used as a conservatory-greenhouse, and filled with Hydrangea paniculata grandiflora, Francoas, Streptocarpus, Kalosanthes, Pelargoniums of sorts, Humea elegans, &c., all made a striking picture of arrangement and colour.

Early Peaches and Nectarines had all been gathered, the

varieties being Royal George and Noblesse—the latter a great favourite here—with Early Rivers and Stanwick Elruge. The second house was heavily cropped with Bellegarde and Noblesse Peaches and Downton Improved Nectarine. The large vinery is filled entirely with Muscat of Alexandria and Madresfield Court. The border had become waterlogged, and Mr. Stoney was obliged to lift the roots, with the result that there is now a heavy crop of bunches and large berries, the former of which were ripening an amber hue, and the latter as black as Sloes. Tomatoes on the back roof were simply roped with brilliant fruit, as also was the case wherever one saw them grown here.

Cannas in all the leading sorts, with Begonias, single and double, of robust growth, were fast developing their gorgeous spikes, and would be of immense service later. Orchids are somewhat extensively grown, the fleshy roots and bold growths promising the onlooker the beauties of what must follow. There were many superior forms of Odontoglossums, Cattleyas Gaskelliana and Sanderiana, Cypripediums in variety, not forgetting a noble plant of *C. Rothschildianum*, and many other spikes all

Planting Orchard Trees.

In many old orchards where the trees are decrepit with age and past renovating, it would certainly pay to discard them altogether, and plant fresh trees entirely. It is not advisable, however, to plant trees in the same situation as that occupied by these old stagers, for the reason that not only is the soil impoverished, but it will be extremely dry, and some time would elapse before it could be brought into a suitable condition. Some previous preparation of such positions is necessary; not less than three, but better six months is a good period, if no other position can be assigned the trees. If not absolutely essential to plant in the same spot, stations may be prepared, say midway between the old trees, if planted as orchard trees should be, not less than 20ft apart. The stations should be 8ft in diameter. Remove the turf and top soil, placing it on one side, then break up the soil below to the depth of 3ft, the lower foot being the subsoil,



CAMP HILL, WOOLTON, near LIVERPOOL.

told of the care bestowed upon them. Two useful span-roofed houses are specially kept for the purpose of supplying Melons, Cucumbers, and miscellaneous decorative stove plants, amongst the latter being *Acalypha Sanderæ*, *Ixora coccinea superba*, richly coloured Crotons, &c. Gloxinias could scarcely be overrated. Two other large houses once used as vineries complete the list. The roof portion is fully taken up with L'Idéale and W. A. Richardson Roses, strong, vigorous, and without an insect or disease. On the back wall a capital Maréchal Niel is growing, whilst underneath greenhouse plants grow and enjoy the position.

Useful pits and frames were stocked with an abundance of various plants. Apart from other outside features, two are worth recording, viz., a superb hedge of Crimson Rambler Rose, which was at the time of my visit in all its glory, also the many charming beds of Carnations of such sorts as Mrs. Reynolds Hole, Uriah Pike, White Rosette, Duchess of Fife, and Salamander. Chrysanthemums (of which about eight hundred are grown) could not have looked more promising. The fruit crop of all kinds is of the best, a row of cordon Pears planted two years ago are now giving a foretaste of what is to come. Vegetable quarters are fully equipped with an assortment of the best varieties, and altogether there is a neatness in everything that reflects the utmost credit upon the abilities of Mr. Stoney and his staff, and which cannot fail to be a source of much pleasure to Mr. and Mrs. Gossage.—R. P. R.

which is best broken up to act as drainage. Two feet in depth of well broken up soil will form a good rooting medium, and prepared now, should soon become consolidated for spring planting. Standard Apples, Pears, Plums, and Cherries should be planted 30ft apart. Half-standards may be half the distance. The following are

Good Varieties to Plant.

Culinary Apples may include Warner's King, Keswick Codlin, Ecklinville Seedling, Dumelow's Seedling or Wellington, Lane's Prince Albert, Bramley's Seedling, and New Northern Greening. Dessert Apples might be represented by Devonshire Quarrenden, Fearn's Pippin, Duchess of Oldenburg, Irish Peach, Cox's Orange Pippin, and Scarlet Nonpareil. Standard and half-standard Pears should include Williams' Bon Chrétien, Beurré d'Amanlis, Louise Bonne of Jersey, Jargonelle, Fertility, and Marie Louise d'Uccle. Of Plums, plant Victoria, Rivers' Prolific, Pond's Seedling, The Czar, Monarch, and Pershore.

Cherries for orchards should not be planted except as dwarf trees, which can be protected from birds by nets when the fruit is ripe. Early Rivers, Early Black Bigarreau, May Duke, and Black Tartarian are good varieties. Plant half-standard, pyramid, or bush trees. Immediately after planting the trees should be securely staked, to prevent any chance of the wind rocking them and preventing them rooting.—HANTS.



Chrysanthemums from Australia.

To judge from varieties now blossoming for the first time in this country, our kinsmen "down under" appear to be those the most likely to effect improvements in our favoured autumn flower. A few years back the finest of the novelties came from France; then home-raised seedlings partially ousted those from that source. Now, in my opinion, Australia is a long way first; and this owing principally to the remarkable success of Mr. T. W. Pockett as a raiser. This gentleman was recently in England. Whether or not he saw finer developments than in Australia I hope he will state, but it is extremely doubtful if grander varieties will anywhere be found than his own, which flower at the Earlswood Nursery, Redhill. Mr. Pockett must possess remarkable skill as a hybridist, or the conditions of Australian weather are specially suitable to this flower.

Not so long as four years back Mr. Wells desired his friend to "send over some dark ones," and truly they are here. One kind is almost black in its intensity of maroon; another quite a blue shade of plum colour. The "Blue Chrysanthemum," therefore, may not be a myth so very long, with a climate and a raiser who can together manipulate the shades of colour so well. I hope to make more than this passing reference to the deep-coloured novelties later on in the year, when they are tested. At present they bear only marks which are hardly intelligible to the reader. One sort, however, is named; this is a yellow

Mrs. T. W. Pockett,

a flower of exceptional beauty. The colour is a soft and pleasing shade, the form most handsome. It has long drooping florets, not unlike those of the Carnot family. These build up a flower of extra depth and width, and with a superb finish. The habit of the plant is dwarf, with leafage like a well known kind, Nellie Pockett, and every bloom opens well. The finest examples, however, are from second crown buds. This sort all exhibitors must have if they wish to obtain the prize for the premier flower of the show. Amateurs, too, must possess it, because it is easy to grow. Phyllis is another magnificent show flower. Those who remember the variety Robert Owen can form an idea what the new one is like if they imagine a bloom of similar incurving shape and shade of colour, but double the size. The habit is robust. This is from another Australian raiser, Mr. Brunning.

W. R. Church

is a very fine variety of massive and graceful build. The florets are broad and long and inclined to reflex. It is not wanting in substance, and it is of easy culture. The colour is rosy crimson with bronze reverse. It is dwarf, with capital foliage. Among the largest is Matthew Smith, one flower of which measured 10 in across as it was opening on the plant. It is a bronzy-yellow bloom, recurving in shape. This, too, is easy to grow, and every bloom opens well. C. J. Salter is a light yellow of gigantic proportions, and a rare one to last. Its flowers contain numberless florets, which when opening look like quills, but they finish a bloom of double form, incurving in the centre, with a long, loose outer fringe, which hangs down. Nellie Pockett is a creamy white bloom, and is a sort now well known and deservedly popular. So, too, is Australia, but sports from the last-named demand attention, although Australia cannot claim them; one, a white, having originated in France, another, a pearl-pink, being obtained at home. The first,

Madame Herrewége,

is very fine, as the florets droop considerably more than they do in the type. This makes the flowers remarkable in depth. There is just a shade of green in the white. Mrs. J. Cleeve, the other sport, like the type, is incurving, and as the colour is pearl pink instead of lilac, as in Australia, this may be termed a decided gain as an exhibition flower. The variety Lord Ludlow is very fine. It has every quality a cultivator could wish. The colour is rich, and the form of the flower handsome. It is large, and the plant of first rate growth. For late-struck cuttings and one bloom on a plant this sort is well adapted. By this means one may obtain magnificent specimens. J. R. Upton is a valuable kind, bearing bright yellow flowers. These are extra large and gracefully formed, its only fault being that it is a trifle late for early

shows. In the early stages the plants are rather weakly, but as the season goes on they gain in strength, and become among the strongest. This sort is now fairly well known. Occana, once a favourite, is still fine, but not often seen at its best. The same may be said of another old Australian variety, Pride of Madford. Others, like Ernest Bettisworth, C.I.V., rich rosy purple; Millicent Richardson, purple with lilac reverse, are huge flowers which will sure to be seen in good condition later. Lady Roberts, again, is a variety with a great reputation. It is now only in its early stages of opening, but the colours, crimson and yellow, are especially rich.—H. S., Woking. [These notes were written early in the Chrysanthemum season. What has "H. S." to say of this season's English-raised seedlings?—Ed.]

Godfrey's Winter Queen.

At the meeting of the Royal Horticultural Society, on Tuesday, the 14th inst., Mr. W. J. Godfrey, Exmouth Nurseries, Devon, staged a group of cut blooms of this new Chrysanthemum, which was honoured with a Silver Banksian Medal. The collection included some 200 handsome blooms, very large for so late in the season, full, solid, fresh, and nearly white. There is just the suspicion of cream shade, or of that delightful tint found in Mrs. Mease variety, which, by the way, Winter Queen resembles in many points. The petals have that graceful curling form and droop seen in Mrs. Mease. The variety is a seedling, and comes into flower about Christmas, remaining good, when properly treated, till the present date. We can predict a future for it as a bush variety for market growers, and for private gardens as being most useful in producing late blooms.

Notes Regarding Tuberoses.

The proper name of this, the most fragrant of flowers, is *Polianthes tuberosa*; but we must not confound the first name with our common *Polyanthus* in the borders, although the one will readily put us in mind of the other. Whenever you see anthes or anthus at the end of a name of this sort it means a flower, and is taken from anthe, the Greek word for flower; poly is also a Greek word signifying many, so that the two words put together will mean—manyflowered. But the first name of the Tuberose is spelt differently, and has a widely different meaning. It is from polis, the Greek for a city, and anthe, that is, "the city flower"; because, as I suppose, all the inhabitants of a city ought to grow it every year for their tall windows and staircases! And surely, if they can manage that in the city, we ought to be able to do it where the air is more pure and healthy.

The first Tuberose that came to Europe was a single flower from some of the more temperate regions in India; and the double one, which we now grow so extensively, was first raised from seeds in Holland—that land of bulbs; and to show you one of the great changes which civilisation brought about, I may mention that the heavy Dutchman who first raised this double Tuberose, was so selfish, that he would not part with any of the roots for many years—not even after he had propagated them in such numbers as to have more than he could plant. He is said to have destroyed his overstock of them, that he might have the vanity to boast of being the only person in Europe who was possessed of such treasures! I would mention his name, were I not afraid that some of his descendants might hear of the sad legacy he thus left them. Let us, therefore, turn to a more pleasant theme.

The Tuberose never flowers but once from the same root, and if it shoots up a flower stem without producing any flowers at all it is just the same as if it had produced flowers, and it will not even shoot up a flower stem again next year; neither will the offsets, bulbs, or tubers which are numerous produced round the old root, do any good with us in pots; but the whole must be thrown away at the end of the season, and a fresh lot bought in every spring. A person curious for experiments, however, might grow the roots in this country so as to flower them after the second year, as strong as the Italian roots—for they are all imported annually from America or Italy. The thing has been done successfully in England a hundred years since, but they are now so cheap that we never think of rearing them for ourselves. The way they used to nurse them in England was by picking off the strongest of the offsets from the flowering roots about the time of potting in the spring, and planting them 5 in or 6 in apart every way, on a slight hotbed, in light rich mould. Those who had a Cucumber light to spare, would, of course, place it over the young Tuberoses, till the May frosts were over; and those who had not that convenience would hoop over the bed with slender rods, and cover them at night

with mats, and, in addition to this, others would make little neat hedges round the bed with Spruce or Furze boughs—the latter an excellent barrier against rats and mice. All that the young Tuberoses needed after the frost and coverings were gone, was to keep them clear from weeds, and to give them plenty of water in dry weather; and as the frost would kill the roots, the bed was duly thatched with a foot thick of straw as soon as any danger appeared in the autumn, all the leaves being first cut off, for fear they would get mouldy under the thatch, and carry the damp down to the roots and destroy them; for it would not do at all to take up the tubers then, as they had long soft roots that could not be dried or cut off without rotting the tubers; but in about three months afterwards these roots, and the Tuberoses themselves, were ripe enough to be handled without any danger, and in February they used to take them up, so as not to grow too soon to be nipped by the frost, preserving all their long roots, and placing them in dry sand, or very dry earth, till April; then planting on a slight hotbed, as in the first instance, with sheltering, weeding, watering, and thatching as before, and taking them up again next February to be planted out for flowering—always at the same distances from each other, and the top of the tubers not more than an inch below the surface.

In this second season, many of them would push up their slender flower stems from 2ft to 4ft long, and produce from eighteen to two dozen of their charming, sweet-scented flowers; and, to have some indoors as well, they would take up part of the stock carefully with a trowel when the flower buds were beginning to open, put them into pots, and by careful watering and shading them for a few days, they would soon recover this check. Those that did not flower the first year would be very strong next season; and once the first batch came into flower, there would always be a succession afterwards every year. Every time they were taken up the offsets would be taken off them, except two or three of the strongest to be grown for stock; and when the tuber once flowered, these stock offsets would be planted separately, to undergo the same routine as their parent. There is no more trouble in all this than there is in rearing a bed of ridge Cucumbers, and he is a poor gardener who cannot do that in England after the middle of April. Half-spent dung from the linings of a Cucumber bed, or any refuse of that sort, would be good enough to begin the young Tuberose with. Such a bed should be made in an open trench in some warm corner, packing in the dung tightly, so as not to settle much or unequally afterwards. About 2ft deep of dung would be thick enough, and carried up to near the surface. When the heat became steady and not too strong, the bed should be covered a foot thick with light rich soil, and then planted with the offset tubers, leaving the crowns, or top part, an inch below the surface. The frame and light would then be put over it, and a sharp-pointed stick thrust down into the bed, to be drawn every other day, for a fortnight or so, to ascertain that the dung did not heat too violently, for if it did, it might greatly injure the Tuberoses, if it did not roast them altogether. The safest way to check such violent heat is to make holes in the bed here and there, and pour down water from the spout of a watering-pot, but not too much at a time, for fear of chilling so small a bed. The Tuberoses would not require any water till their leaves were well up, and not much of it afterwards, except in dry weather. There is one point in this old way of growing the Tuberoses for ourselves which I think a great improvement on the present fashion of buying our supply of them from abroad, and that is the preservation of their roots. It does not require a prophet to foresee that if we could obtain those fine long roots, which the Tuberose makes, in good preservation, the tubers would produce much larger flowers than they do at present, and in greater numbers. The beautiful old-fashioned bulb called Tigridia, or Tiger Flower, would answer remarkably well under the above treatment, and no doubt many other half-hardy bulbs besides.

The only secret in growing the Tuberose, which we buy at the seed shops, without the help of a pit or hotbed, is to begin early with them, say the first week in April; to strip off all the little offsets that grow in a ring round the bottom, for these must suck their nourishment from the parent tuber, and that extra food had better go to enlarge our flowers; to plant only one in a small pot of not more than 4in in diameter, with very good drainage, and, if possible, a thin layer of fresh moss placed over the drainage, for the double purpose of preventing the soil getting down among the crooks, and for supplying the tips of the roots, which are sure to work down as far as they can, with uniform moisture. They will do better with moderate watering in a steady way than with large doses at certain intervals. The soil must be light and open, and any common soil can be made so by adding sand to it; and a little leaf mould, or the refuse of rotten wood, will both open and enrich a stiffish soil, if no better can be had for potting. This soil, or compost, should be neither dry nor wet when first used, but just to feel damp to the hand, and I am altogether against the bad practice of watering dry bulbs or tubers as soon as they are potted. So doing is just like burying a man alive, and putting plenty of roast beef and strong ale in his coffin. A root or bulb that will keep safe month after month in a drawer or paper bag, will surely wait a week or ten

days after potting without water, or until it can make some roots and leaves to make use of the water. Its own juices, and the natural dampness of the soil, will be stimulus enough for any plant of this kind that ever I heard of till it pushes up a few leaves above the earth. The Tuberose is very fastidious in this respect, and if it is once swamped with water in its early progress, no coaxing will induce it to flower that season, if grown in a pot. When grown over a hotbed, where the roots can spread in all directions, it is, of course, less susceptible of such injury.—B. D.

Gadding and Gathering.

“HERE AWA’, THERE AWA’.”

At Feltham, in the autumn, I made note of few Dahlias of great attractiveness. Charles Woodbridge was one, and this secured for Messrs. Ware, Ltd., a gold medal when first sent out. It is most useful as a bedder, and has crimson blooms and radiating (Caetus) petals. The old Glare of the Garden was also in evidence; Mrs. J. J. Crowe, Laverstock Beauty, Matchless, and Sylvia, the latter being one that is grown almost exclusively for supplying cut flowers in Berlin gardens. Pompons are now scarcely cultivated, although, at the same time, a goodly selection of varieties are grown. The most floriferous and showy of this latter section include Lily Wheeler, Little Dorrit, Fairy Tales, Mary Durie, Mrs. Minna, and Miss Nelly. Amongst the Pyrethrums the beautiful Aphrodite was especially conspicuous, though here also the selection is representative. Outdoor Chrysanthemums were in numerous varieties and doing well. Long borders of herbaceous plants were a special feature, and none more beautiful, at least so far as foliage alone can be accounted of, than *Iris pallida foliis variegata*. Gynuriums, or, as they are now more correctly named, Cortaderias, as well as many other ornamental grass-leaved plants, met the view prominently. The Verbascums had passed, but their withered remains were still upheld. The ever-flowering *Dicentra eximia* and the deep chocolate-purple leaved *Oxalis purpurea* were two of the prettiest subjects one could have selected. Plumbago *Larpenæ* in great beds, with its blue flowers, furnished a most pleasing show. Along the banks of some of the French railways this dwarf and vigorous plant literally smothers acres of surface. That handsome and very useful new climbing *Polygonum baldschuanicum*, with its numerous dependent trusses of pink or rose-pink flowers, was included, and was doing well. It was brought originally, we believe, from one of the Southern States of Germany. Another sweet plant for the hardy flower border bore the name *Stokesia eyanea*, and closely resembles *Callistephus hortensis*. A whole line of the Double White Arabis, which is much too little known, bordered a lengthy strip of ground. When seen in the height of summer this furnishes a splendid dwarf plant, closely resembling a small East Lothian Stock.

Of the perennial Phloxes, the best were Flocon de Neige, Stendhal, Sylphide, and W. Robinson. Delphinium Voltaire is also worthy of note. One must likewise include amongst the Phloxes such varieties as Ruby, Pantheon, Montagnard, Adonis, Albato, Coquelico, Flambeau, Le Mahdi, Leonard de Vince, and Bocolyne. One of the best *Oenotheras* is that named *acaulis*, with large and pure white flowers; it delights in a sandy soil. Double and single Violets are also a feature at Feltham; while of Nymphæas, all the newer sorts are included. It is proposed to furnish larger and more suitable quarters for them. A representative selection of *Oncocylus* Irises are grown in pots to flower under glass. Another graceful plant was noted under pot culture, and which Messrs. Ware possess a fine stock of—namely, *Milla biflora*. It has white starry flowers of very simple form. And the beautiful ever-flowering *Lithospermum prostratum* formed quite a gay little mass of blue colour. *Dianthus Knappi* is a yellow flowering single variety, very tasty; *Cyclamen hederæ-folia album* is a charming dwarf subject, and decidedly one of the best of the hardy members of the genus. *Shortia galegifolia* has yet to make headway throughout the country; it is a beautiful subject, with shiny, roundly formed leaves and pretty white flowers, with fringed petals on slender but nearly erect stalks—obtains a considerable amount of attention and space. The flowers are of a simple, stellate form, about 2in across and pure white. *Ajuga metallica crispa*, a novelty of late years, is also grown. The collections of Primulas and Campanulas are representative of the best and most useful varieties for general uses—hardy plants being, of course, one of the most special divisions of the firm’s trade. *Chrysopsis aurea Rutheri*, a yellow Californian Composite, was noted as worthy of special mention. *Ramondia pyrenaica* and its white variety were each seen in splendid condition, the batch including a numerous selection of plants. *R. Vataliæ* is a species little known, and the ruddy flowered *Ourisia eoceinea* is as yet a gem for the ardent specialists only.—WANDERING WILLIE.

Roses for Autumn Blooms.*

The era of autumn-blooming Roses may be said to have commenced with the introduction of the Bengal or Chinese Rose (*Rosa indica*) from the East at the end of the eighteenth century (1789), and it is to this Rose and its descendants—direct or hybridised with other species—that we owe the best autumnals of to-day. It is true that the Musk Rose, and perhaps one or two other late-flowering species, were already in English gardens, but the flowers were comparatively insignificant, and only fitfully produced. The Roses of the West were essentially summer flowers; and hence by the earlier poets and painters they are linked with sentiments and associations of early summertime. Shakespeare makes one of his characters say:

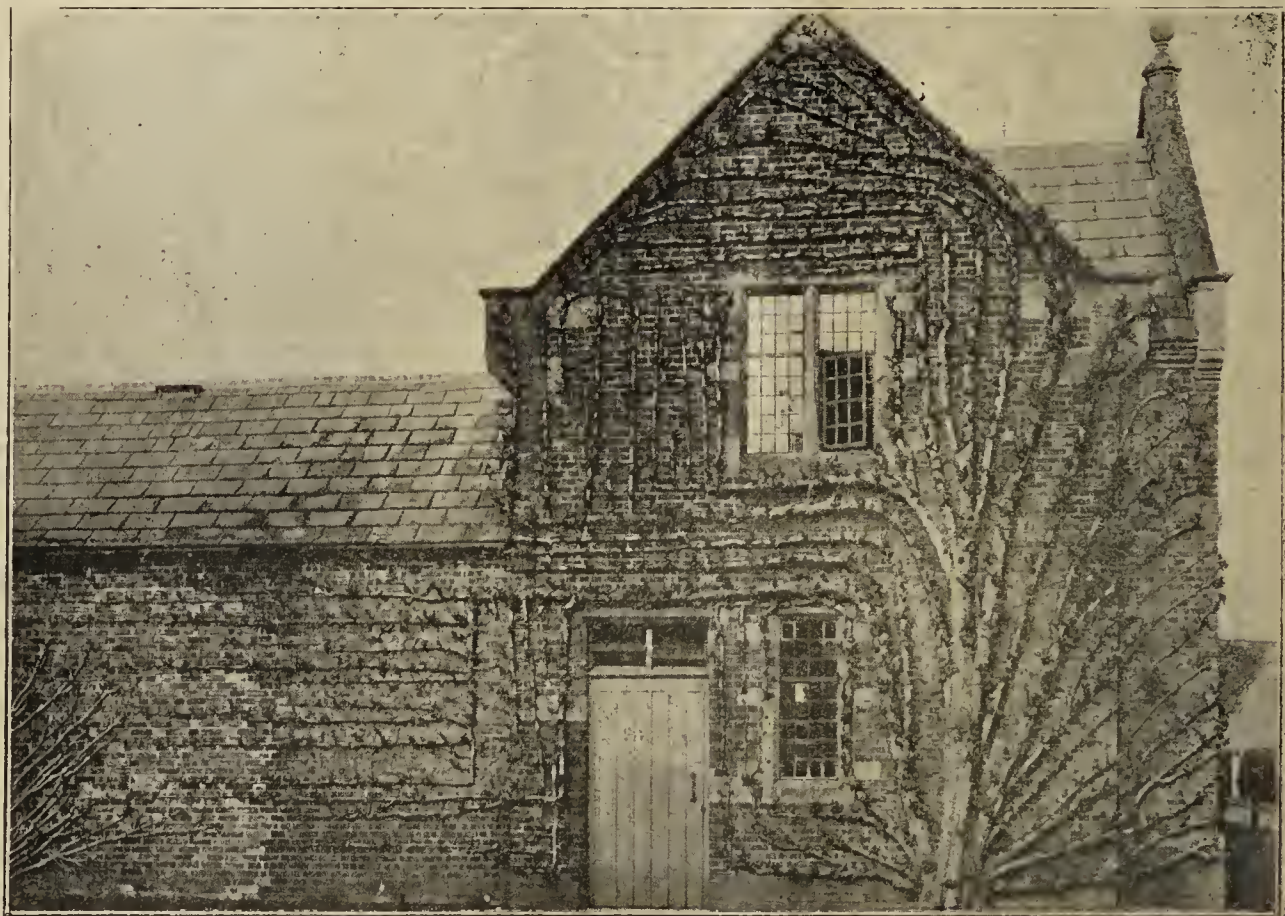
At Christmas I no more desire a Rose
Than wish a snow in May's new-fangled shows,
But like of each thing that in season grows.

At the present time, however, it is no unusual thing to pluck blooms of Gloire de Dijon, Madame Lambard, and other favourite Roses at Christmas from plants out of doors on walls and other sheltered positions in the garden. Without doubt, ever since the Rose enjoyed the serious attention of the horticulturist, Roses in autumn have been appreciated, especially in large gardens, coming as they do at a time of year when so many of their owners are in residence, with the leisure to admire the beauties of the surroundings of their country homes. In 1812 was raised, in the gardens of St. Cloud, near Paris, a beautiful crimson Rose, named by the raiser Rose du Roi. This Rose I have always regarded as the first of the Hybrid Perpetuals, a group which, having increased in variety, held almost undisputed sway from the middle till nearly the close of the last century.

In the first edition of "The Rose Garden," published in 1848, we find enumerated and described 188 varieties of Bourbon Roses, 145 varieties of Tea-scented Roses, 106 varieties of Hybrid Perpetual Roses, upwards of 100 varieties of Chinese Roses, and other varieties of autumn-flowering classes; but when representative groups began to be exhibited at the meetings of this Society, some eight or ten years since, it was rare to find admirers of the national flower who had cultivated it with this especial object in view. Since that time, however, the number of really handsome autumn-blooming Roses has largely increased, and to what a state of perfection in beauty of form and colour they have attained may be judged of from the collections which have been exhibited from time to time in this hall. It may be said that the long and warm summers of the last few years have greatly favoured the development of the autumn flowers, especially in the Chinese, Tea-scented, and Hybrid Tea-scented sections; indeed, on October 10 last year, these particular classes at Waltham Cross were as full of flower as in the height of summer, whilst the quality of the blooms was extraordinarily good. But, making due allowance for these especially favourable climatic conditions, we are certainly much better off in respect of autumn-blooming Roses than we were twenty years ago, and I think

the time has come for June to share with September her proud pre-eminence as the "month of Roses," and that there will not be wanting poets of the future who will sing the charms of the Roses of the autumn, those chaste and richly-hued blossoms which so gratefully prolong the season of the queen of flowers, and maintain the garden gay with their soft and glowing colours until the icy hand of winter finally closes in upon us.

As indicating the large measure in which we are indebted to the Chinese Rose for the best autumnals of to-day, it may be remembered that, in addition to the many beautiful varieties of the original type that we possess, the Tea-scented Rose and its varieties (*R. indica odorata*) are a group of the same species, whilst to the union of the Tea Rose with the Hybrid Perpetuals (and perhaps a few varieties of other species) we owe the comparatively recent class of Hybrid Teas which are so deservedly popular. Again, the Musk Rose, crossed with the Chinese (their progeny in some cases again crossed with the Tea Rose), has given us the lovely cluster-flowered Noisette Roses; the Chinese Rose crossed with the Four Seasons, or Damask Perpetual, has



Pear, Uvedale's St. Germain—Winter View at Weston House, Shipston-on-Stour.

given us the Bourbon Roses which were so popular fifty years ago, and which still furnish some excellent autumnals, whilst the beautiful Dwarf Polyantha Roses, so valuable for massing and for edgings in the autumn Rose garden, are supposed to owe their origin to the crossing of the Chinese or Tea Roses, with the stronger growing summer-flowering Multiflora Roses.

Even in some of the best autumn-blooming Hybrid Perpetuals it is not difficult to imagine traces of Chinese or Bourbon blood either directly or through the Damask Perpetuals. The earlier varieties of the Tea-scented Rose were no doubt too delicate for general planting out of doors, but of late years, thanks to judicious cross-breeding and selection, a great improvement in this respect has taken place, and, although some of the more recent introductions may be lacking in the grace of habit and delicacy of perfume of the earlier varieties, they more than make amends for decorative purposes by their hardier constitution, their greater variety and richness of colour, and their excessive freedom in blooming.

Next to the Chinese Rose and its variations and descendants above indicated, the most important class as autumnal bloomers are the Hybrid Perpetuals. A few years ago the

* A paper read before the Fellows of the Royal Horticultural Society by Mr. Arthur William Paul (Messrs. Wm. Paul & Son), September 24, 1901. Printed in vol. xxvi, parts 2 and 3.

varieties of this class ranked very highly among autumn Roses, but it must be admitted that they have been somewhat eclipsed of late by the Teas and Hybrid Teas. As a class, however, it is still justly held in high esteem for late flowering, for although many of its varieties cannot be depended upon to give sufficient flowers in autumn to produce any great effect in the garden, such favourites as Alfred Colomb, Ella Gordon, Fisher Holmes, Mrs. John Laing, and others are of great excellence.

Among the minor classes of Roses, several of the Rugosa Roses are good autumnals, and they are further valuable for their extreme hardiness. They successfully withstand severe frost, and are often found to thrive well in the neighbourhood of large towns, and under other unfavourable conditions of soil and climate. Several of them also possess an additional attraction in the showy hips which succeed the flowers. Other good autumnal blooming-species are the Microphylla and Macartney Roses, which, however, are rather tender, and succeed best with the protection of a wall; the Perpetual Moss Roses, which as yet do not appear to have attained to the popularity enjoyed by their summer-

that this habit could be perpetuated. It was no doubt due to the long warm summer, broken by a cool wet week at the commencement of August, and followed by another spell of warm weather, which caused the plants to start into a second growth, and to produce flowering shoots from already well-ripened and developed eyes. We also read in the papers last January of an autumn-blooming form of the Crimson Rambler, which I think may be referable to the same cause, although, of course, this is conjectural.

(To be concluded.)

Pear, Uvedale's St. Germain.

Apropos of the extraordinary weight and size to which Pear, Uvedale's St. Germain (or Belle Angevine, as it is called in France) attains, it may be interesting to state that some thirty years ago there was to be seen in Solomon's shop window (Covent Garden) a dozen of the fruit ticketed at from one to two guineas apiece; they weighed collectively about 36lb. Mr. Solomon, I believe, was offered thirty guineas for the lot, but chose to keep them for letting out to dinner parties. At a South Kensington exhibition in 1874, M. Bréhaut, of Guernsey, exhibited six fruits of this Pear, weighing 20lb: the largest fruit weighed exactly 5lb, and measured 20in in circumference. They were declared to have been grown on a single cordon tree, yet one of the fruits weighed 5lb! The figures on pages 86 and 87 are from photographs of a tree at Weston House, Earl Camperdown's residence near Shipston-on-Stour, in Warwickshire, and where his gardener, Mr. J. Masterson, so ably cultivates hardy fruits of all kinds. The winter view of the Pear presents a capital object lesson in careful training, and should be an incentive to young men who are busily engaged in the pruning and nailing of wall trees out of doors at this season.—G.

The practice of hiring out these monstrous specimens of this coarse variety of Pear we believe is still in vogue.

These large fruits have little more flavour than Swede Turnips, and are only fit for stewing. For this purpose alone can the variety be commended, and for heavy yields few Pears excel it. In use from January to April. We quote from "The Fruit Manual" the following history of it: "This appears to be an English Pear, and to have been raised by Dr. Uvedale, who was a schoolmaster, and lived at Eltham, in Kent, in 1690. Miller, in the first edition of his Dictionary (1724), speaks of him as Dr. Udal, of Enfield [to which place the latter had removed], 'a curious collector, and introducer of many rare exotics, plants and flowers.' Bradley, in 1733, speaks of the Pear as 'Dr. Udale's great Pear, called by some the Union Pear, whose fruit is about that length one may allow 8in.' I [Dr. Hogg] have ascertained by the old books of the Brompton Park Nursery that it was grown there in 1752 under the name of 'Udale's St. Jarmaine.' . . . It is very probable that by some means it was transported from England to Paris. . . ."

Edinburgh Gardeners' Assembly.

A few enterprising members of the fraternity have this season organised a dance, which is to take place on Friday first, the 24th inst. Somewhere about fifty couple are to "take the floor," and should the venture be successful, it will be held annually. We wish it a hearty success.—S.



Pear, Uvedale's St. Germain—Summer Aspect at Weston House, Shipston-on-Stour.

flowering relatives; the Perpetual Scotch Roses, one of which, the Stanwell Perpetual, forms strong hardy bushes covered with deliciously scented, rosy-white flowers in autumn; the Musk Roses, whose clusters of double flowers remind one of the Ayrshire and other climbing cluster Roses of summer; and the Damask or Portland Perpetuals, which were once exceedingly popular, but have now almost passed out of cultivation. The single-flowered Rosa Wichuriana is a beautiful autumnal bloomer, but the hybrids of it introduced at present do not preserve this trait. The Clyno-phylla duplex should also not be lost sight of; it has rosy-white flowers with distinct downy foliage.

Passing allusion may also be made to the autumn flowers which are occasionally produced by varieties whose nature it is to bloom once only, in early summer. The Briar Rose Harrisonii has been known to flower at Waltham Cross in autumn, and I have heard of the same occurrence elsewhere, but I never knew its autumn-blooming character to be fixed by propagating from the flowering wood, although I know the attempt has been made. Last year, also, I noticed in several places some of the summer-flowering climbing Roses of the Ayrshire and Evergreen classes giving a second crop of flowers in September and October, but I do not imagine



"Taxing Dutch Bulbs."

The paragraph under the above heading, on page 55 of your issue for January 16, is hardly in agreement with the facts of the case, unless an increase of the tax is contemplated. In paragraph 251 of the Tariff Act of July 24, 1897, it is enacted "That bulbs, bulbous roots, or corms which are cultivated for their flowers pay a duty of 25 per cent. ad valorem." I have been informed by many large dealers in Dutch bulbs in America that, while the legitimate trade has not suffered, the wholesale dumping of surplus stock in the American auction rooms has been practically stopped, as the wily Hollander does not care to pay out his 25 per cent. with the possibility of not getting a sufficient return to pay the freight. Some of us think this system should be adopted in England and all respectable Dutch firms cordially support the idea.—S. B. DICKS, F.H.R.S., 7, Howard Road, Anerley, S.E.

Late Keeping Culinary Apples.

A practice I am addicted to is that of reviewing past volumes of the Journal, and in my inspection of the first half-yearly volume for 1901 attention was drawn to Mr. A. H. Pearson's notes (p. 286, April 4) on some late-keeping culinary Apples mentioned by me in a previous issue, and which I do not seem to have given reply to. I perused with considerable gratification his apropos remarks, as well as the expression of his opinion as to the identity of the so-called John Apple, and evidently one or the other of us must be labouring under a mistaken impression of it. At the same time I fully recognise your correspondent as an accomplished authority on hardy fruit culture and nomenclature. The controverted points were in reference to the Northern Greening and Dumelow's Seedling Apples, and of the first-mentioned Mr. Pearson infers, from some statements made by me, that I could not have the true variety according to my description as to its being a vigorous grower. He correctly describes the shape of the fruit; also, that being a most prolific bearer, the fruits are naturally apt "to become comparatively small." Otherwise, my own experience is to the effect that "it is of medium size as a culinary Apple." I certainly did not intend to imply that the Northern Greening as being one of the most vigorous growers, and in this respect cannot compare with such as Blenheim Pippin, Hanwell Souring, and several others. But under favourable conditions I have known numerous specimen standards in South Warwickshire almost attain the proportions of those vigorous growing varieties, excepting perhaps of a considerably less spreading habit, and several bushels or pots gathered from a single tree. The Northern Greening half a century ago used to be a great favourite with my (deceased) father, and who was an enthusiast in hardy fruit culture, and as a late winter Apple it was his "sheet anchor," as also Hanwell Souring, for the supply of a large establishment. In fact, some years the crop of Apples was so great that he was obliged to dispose of a proportion elsewhere. The Northern Greening (or "Johns" and "Jacks," as he familiarly termed them) was in his estimation, as also that of the chef and the other members of the establishment, considered to be the ne plus ultra of a culinary Apple, requiring but little sugar, and producing, when roasted in the oven, an abundance of sweet jelly, hence altogether superior to the more acidulous varieties, such as Dumelow's Seedling (I will adopt this name for the nonce out of respect to my worthy opponent, in lieu of "Wellington") and Hanwell Souring. These, with the Northern Greening, afforded the principal supply of late keeping Apples at the period indicated. Such excellent varieties as Lane's Prince Albert and Bramley's Seedling were not then in commerce.

Mr. Pearson adverts to the comparative small size of the Northern Greening. But surely that is an almost secondary consideration, when considering its smooth and regular shape, small, closed eye, and narrow, shallow basin—thus least wasteful in paring. Your correspondent remarks that what he calls the "Old John Apple" does not resemble Northern Greening, having a flattened outline and an open eye, which description agrees with samples that came under my notice in Birmingham Market last winter from Bromsgrove, Worcestershire. They were very small, with also a longish, slender stalk, and the flavour inferior to the Northern Greening; it was possibly the identical variety mentioned, and was named by the vendor Northern Greening. In conclusion, I may also be permitted to observe that both in Hogg's "Fruit Manual" and Thompson's "Gardeners' Assistant"

the descriptions of the Apple in question very nearly assimilate as faithful portrayers. The latter as follows: "Fruit rather large or middle-sized oval or ovate, with a regular outline; eye small, closed, set in a small shallow basin, and surrounded by some small knobby plaits; stalk short, frequently inserted obliquely, the base of the fruit forming a projecting curve on one side, &c.; its shoots are marked with a greater number of spots than those of any other Apple." "The John Apple of some."

One word regarding the name Wellington (a synonym of Dumelow's Seedling or Crab, Normanton Wonder), and which Mr. Pearson takes exception to. The former is the name by which it is shown in the London markets, and perhaps owing to this fact that in the second edition of the "Fruit Manual" Dr. Hogg adopted it in preference to the others. After the explanations on both sides I opine that Mr. Pearson and my humble self will join issue in our estimate of the Apple in question, and as he so generously appended his name and address, I feel it incumbent on me to remove my anonymity by subscribing as—WILLIAM GARDINER, Harborne, Birmingham.

"The Father of the Gardening Press: A Tribute."

I feel I must write and tell you, in reading "Landscape Gardening" (*Journal of Horticulture*, January 16, 1902), how delighted I was to read the tribute paid to Loudon and his great work, the "Arboretum Britannicum." I look upon the above as a Noble Work. Being a great lover of trees, words cannot express my admiration of that grand work. Loudon must have been a most industrious and noble soul. Long may his works survive him is the wish of—Yours sincerely, ALICE BAKER. P.S.—By the aid of the *Journal of Horticulture* I am fortunate enough to possess a good copy of the "Arboretum Britannicum," which is priceless to me. I also have a good copy of "The Suburban Gardener and Villa Companion," by Loudon, obtained through the Journal.—A. B.

Frigi Domo.

In reply to "Inquirer," page 561, December 19, last volume, I may state that, in addition to the special utility of frigi domo curtains, I have also found them useful in other respects when not required for that purpose; for instance, when dispensed with after the spring frosts were past doing harm, and the foliage of the wall trees had become sufficient to protect the young fruit from later slight frosts, I have found them most handy protectors from sudden frosts in the month of May and even early June, for the earlier bedded-out flower garden plants. They are much lighter in weight than the ordinary Russian garden mats, hence rendering the material altogether a comparatively inexpensive garden requisite, and infinitely more durable than mats. I am herein reminded that Messrs. Eddy manufacture a specially dressed canvas as a frost protection for frames, &c., being superior to mats and very durable. The ends are hemmed to keep them from fraying, and cords are attached to the sides for fixing. The Russian mats, though very useful, are comparatively cumbersome, especially during wet weather, and in driving high winds require heavy boards or slabs of wood to keep them in position. Frigi domo can usually be ordered through a nurseryman, and certainly always from horticultural sundriesmen. The cost per given size can be ascertained from the latter mentioned firms.—G.

Ideals for the Future.

"D." writes suggesting "That now, when the subject of a 'Hall versus New Garden' for the Royal Horticultural Society is likely to crop up, allow me to suggest to those in favour of a Horticultural Hall that it would be a grand ideal to find offices and chambers within such Hall for the Gardeners' Royal Benevolent Institution, and also the Royal Gardeners' Orphan Fund. Whether the United Horticultural Benefit and Provident Society could also be provided for, seeing that society is more a private concern than the other two, would require to be strictly considered. But the two charities would thus receive prominence, and would be brought directly under the notice of the wealthy patrons of horticulture who are the main supporters of these institutions. Strangers coming to London could also save themselves the trouble of running hither and thither simply by going straight to the central Horticultural Hall. Indeed, an important bureau for the use of all sections of the horticultural fraternity might reasonably be expected to develop in a very short period. I live in hopes of seeing the Hall an accomplished fact, and among other ideals I trust our Royal Horticultural Society will some day in the near future have delegates coming up once or twice a year from the more representative provincial societies to discuss with the Council of the R.H.S. horticultural matters in general, and to formulate plans for the greater development of our beloved profession, both industrially and as an art of taste, in this our grand old Motherland. Yes, and will we omit to help even the Colonies?—D."

Societies.

Royal Horticultural.

The undernoted plants were amongst those that received Certificates and Awards of Merit at this Society's exhibition in the Drill Hall on the 14th. It is necessary to state also that last week we included two *Cypripediums* from Mr. Alex. Wright, Bucklebury Place Gardens, amongst those receiving awards, that should not have been so enlisted. This was owing to confusion in the placement of the cards.

Odontoglossum Duvivierianum Burfordiense (Sir Trevor Lawrence, Bart.).—A hybrid with yellowish-green sepals and heavily marked with brown, the petals are nearly white and also marked with a rich brown; lip white, and it, too, is stained. It is a pretty Orchid, the parentage being *Odontoglossum maculatum* and *O. nebulosum* (Award of Merit).

Cypripedium × *Miss Fanny Wilson* (D. O. Drewett, Esq.).—A handsome flower, from the parentage—*C. Sanderianum* and *C. Argus*. Petals long and drooping, spotted purple, rosy at apex and greenish at the base. The pouch is reddish-rose (First-class Certificate).

Cypripedium × *Mrs. W. Mostyn* (F. W. Wellesley, Esq.).—Large, fine in form, bold and richly coloured. Sepals and petals white margined, reddish-purple in central area, with greenish base; all is glossy (First-class certificate).

Odontoglossum Wattianum, *Hardy's variety* (Baron Schröder).—Flowers pale yellow or primrose, heavily marked with brownish-purple; lip white with purple markings (First-class Certificate).

Cypripedium × *Stevensi* (W. Thompson, Esq.).—A large flower; petals and sepals greenish-yellow, the lip having a tinge of purple (Award of Merit).

Cypripedium × *Leander*, *Cambridge Lodge variety* (R. I. Measures, Esq.).—The parentage is *Leeanum* var. × *villosum*. White dorsal sepal mottled with purple and having a green base. The yellow petals and lip are very handsome and large, the latter with shining brown overlay (First-class Certificate).

Gomesa (Rodriguezia) planifolia (Sir Trevor Lawrence, Bart.).—A dwarf-growing Orchid, with dense, somewhat drooping racemes of greenish flowers (Botanical Certificate).

Ornithidium Sophronitis (R. I. Measures, Esq.).—This dwarf species was shown with its scarlet flowers (Botanical Certificate).

Royal Horticultural—Scientific Committee, January 14th.

Present: Dr. M. C. Cooke (in the chair); Rev. W. Wilks, Messrs. Geo. Gordon, J. W. Odell, C. S. Saunders, E. M. Holmes, G. S. Boulger, C. Bowles, Rev. Canon Ellacombe, Dr. Rendle, and Dr. Masters.

Cyclamens Diseased.—Mr. A. J. Reid sent corms, the roots of which were clubbed, as happens in Cabbages. On examination the appearances were seen to be due to the presence of Nematode worms (eelworms).

Iris unguicularis.—Mr. Bowles showed a ripe capsule of this species which only occasionally ripens its seed-vessels.

Pelargonium Leaves.—From Mr. G. W. Murtrie came leaves of *Pelargonium* in various stages of decay. Dr. Cooke, who has since carefully examined the leaves, reports as follows: "The leaves of *Pelargonium* were disfigured by large brown indeterminate blotches of dead tissue, which did not reveal any fungus mycelium when submitted to the microscope, and there was nothing local to account for the spotting. The whole appearance suggested at once to members of the committee practically acquainted with *Pelargonium* culture that the appearances were of the same character as are known to be caused by sour soil, and that the only remedy was to transplant into fresh soil at once. After twenty-four hours, the dead parts produced a plentiful crop of the common blue mould (*Penicillium glaucum*), which is a 'saprophyte,' and only occurs on dead matter as a consequence of decay, but is never productive of disease.—M. C. C."

Arum corms.—Some corms of *Richardia africana* were shown, with here and there a patch of decayed tissue like a bruise. Dr. Cooke, who has examined the specimens since the meeting, reports as follows: "Both corms, otherwise of a healthy appearance, exhibited on one side an orbicular brown diseased spot, about a quarter of an inch in diameter, entering the corm to nearly the same depth, surrounded by a paler ring exhibiting the spreading of the spot. The decayed matter from the spot showed no trace of mycelium, but was almost entirely composed of elliptical colonies of nearly globose hyaline bodies, about 3 to 4 micromillimètres in diameter, reminding one of the colonies found in *Lamprocystis*. I am therefore inclined to the belief that the disease is some obscure form of bacteriosis, hitherto undescribed."

National Chrysanthemum.

The monthly meeting of the executive committee was held at Carr's Restaurant, Strand, on the 13th inst., Mr. Thomas Bevan in the chair. Special prizes were offered for competition at the November Show by Messrs. G. H. Richards, E. Webb and Sons, Wordsley, Stourbridge; W. J. Godfrey, Exmouth; and others,

and were accepted with thanks. It was announced that the annual general meeting will be held on Monday, February 30, and it was agreed that in the event of the President, Sir A. K. Rollit, M.P., being unable to preside, that Mr. Charles E. Shea, one of the vice-presidents, be invited to take the chair. As Carr's Restaurant is shortly to come down and be rebuilt, it has become necessary to provide another place for the meetings of the society, and the Secretary read communications from the Holborn Restaurant, Anderton's Hotel, and Messrs. Bertram and Co. in reference to the matter. It was decided the Secretary should see Mr. William Bertram in reference to probable accommodation at the Royal Aquarium.

A financial statement was read showing receipts of over £1,000, and items of expenditure were also presented showing a balance in hand of £41, with a reserve of £110, and assets considerably in excess of liabilities. The accounts were passed for audit and presentation at the annual general meeting; a draft report of the committee was also read and approved. Mr. George J. Ingram was nominated as an auditor of the society, subject to his acceptance of office. The Schedule Revision Sub-Committee also made a report in reference to the revision of the schedules of prizes, which was adopted; the same body had also nominated judges at the various exhibitions, and an election subsequently took place.

The same body also reported in favour of a memorial to the late President, Sir Edwin Saunders, to take the form of a fund, to be raised by subscription, to provide a large gold medal of the society to be offered annually to some subjects of the highest excellence at the November exhibition. The report was adopted, and a subscription list opened at once, the medal to be known as the Sir Edwin Saunders' Memorial gold medal. Some further routine business was transacted, new members were elected, and the Corbridge and District Chrysanthemum Society was admitted to affiliation. A vote of thanks was passed to the chairman.—R.D.

[This was received a few hours too late for insertion in our last issue.—Ed.]

Woolton Gardeners' Mutual Improvement.

The annual meeting of the above society was held in the Mechanics' Institute, Woolton, on the 16th inst., Mr. Davis occupying the chair. The hon. secretary, Mr. R. G. Waterman, read a most satisfactory report, the society's expenses being less this year than is usual, owing to not having special illustrated lectures, and a nice balance the result. Votes of thanks were unanimously passed to the officers for their services, and also to the gentlemen who had kindly come forward to lecture during the session. The president for the ensuing year is Holbrook Gaskell, Esq., J.P., who has occupied this position since the foundation of the society. The vice-presidents and committee hold their respective positions the same as last year. Mr. R. G. Waterman was unanimously granted a small honorarium, in recognition of his untired energy and valuable services rendered during the year as hon. secretary. It is most gratifying to the committee to see that their endeavours are being appreciated, and it is to be hoped that all members will try and induce any gardeners who do not belong to the society to become members at once; also it is the committee's desire that the advantages of the society should be brought to bear in the matter. Classes are being formed for any gardeners whose intention it is to sit at the coming examination of the R.H.S. According to Mr. James Rae's (hon. librarian) report the library does not get patronised to the extent it so fully deserves. There are 150 books contained therein on gardening literature alone, the majority of which are written by recognised authorities on practical and scientific gardening. The following are a few books, which will be found to be invaluable to any student who contemplates sitting in April at the R.H.S. exam.:—

Kerner and Oliver's "Life History of Plants." 2 vols.
Scott's "Structural Botany." 2 vols.
"Physiology of Plants." Sorauer.
Cousin's "Chemistry of the Garden."
"Elements of Chemistry." Renisen.
Oliver's "Elementary Botany."
Bentham and Hooker's "British Flora."
Marshall Ward's "Diseases of Plants."
Darwin's "Fertilisation of Orchids."
Wright's "Fruit Grower's Guide."
Nicholson's "Dictionary of Gardening."
Cassell's "Popular Gardening."
Dr. Hogg's "Fruit Manual."
Veitch's "Orchidaceous Manual."

The esteemed president, Holbrook Gaskell, Esq., some years ago presented the society with one of Liety's strong power microscopes, and Mr. H. Corlett has kindly consented to show to the members some subjects which he has been preparing, and which will, no doubt, prove very interesting. Mr. Corlett has charge of the microscope, and would be pleased to form a microscopic class if sufficient members are interested in the subject; therefore the committee hope that members will come forward in numbers sufficient to form a class for this interesting study. Mr. Davis was thanked for presiding.—J. S.

Beckenham Horticultural.

On Friday, January 17, Mr. H. O. Etherington, manager to Mr. John R. Box, of the West Wickham Nurseries, gave a most entertaining lecture on "Plant Physiology." As a matter of course, in a lecture of this kind more or less scientific terms must be made use of, but the lecturer, by the use of a black-board, explained these where necessary, and by so doing his audience (and this was a good one) were able to more fully assimilate what was desired to convey. Attention was first drawn to the lower orders of unicellular plants with their tiny speck of protoplasm ("the basis of life"), then to the way in which plants are built up by the divisions and multiplication of cells; how these cells differ in construction in various plants to suit their environment, &c., &c. Absorption and transpiration received attention, and useful lessons to the practical cultivator deduced therefrom; to wit, treatment must be such as will favour transpiration by the leaves or the proper absorption of nutritive matter cannot proceed. On the other hand, transpiration must not go on at a more rapid rate than absorption, or the cells lose their turgidity, and no growth is taking place. Mr. Box being present, kindly acceded to the request to occupy the chair for the evening. After a few questions had been put and replied to by the lecturer, Mr. Webster made some appreciative remarks which was supported by Messrs. Horlock and Baxter, and moved a hearty vote of thanks to the lecturer and the chairman, this enthusiastically accorded, closed a pleasant and profitable evening.—T. C.

Ancient Society of York Florists.

At the recent annual meeting of this society the secretary (Mr. G. F. W. Oman) presented the yearly report, which was eminently satisfactory. The year's receipts all told amounted to £789 7s. 5d. The expenses had been £591 15s. 11d., leaving a balance in hand of £197 11s. 6d. The number of members who paid subscriptions during the year amounted to 744, exclusive of twenty-five new members. The shows of the society were well upheld. Alderman McKay was re-elected president, with the following as vice-presidents: Mr. J. G. Butcher, K.C., M.P., Mr. G. D. Faber, M.P., the Lord Mayor of York (Alderman Foster), the City Sheriff (Mr. G. Potter-Kirby), the Dean of York, Alderman Sir Joseph Sykes Rymer, J.P., and Mr. J. Rodwell. Other elections resulted thus: Rev. Gordon Salmon, chaplain; Mr. W. A. Clarke, junior warden; Mr. G. Lamb, treasurer (£5 honorarium); Mr. Oman, secretary (with proposition to increase this officer's salary); and Mr. G. Sykes, junior auditor. Mr. Rodwell moved that the sum of £200 be granted for prizes at the Chrysanthemum Show and £80 for prizes at minor shows. Councillor Robinson seconded the resolution, which was carried. Mr. Emms moved that £5 be given to the York County Hospital and £3 towards the late Queen's Memorial. On being put to the meeting the resolutions were lost. The following were elected committee for the ensuing year: T. E. Abbey, E. Allen, W. L. Appleton, J. Archer, Councillor Birch, W. Clues, G. Hudson, J. B. Inglis, J. Key, J. Lazenby, R. McIntosh, J. C. Milburn, J. Pillmoor, Councillor Robinson, G. Skill, E. Tate, W. Todd, Councillor Wilkinson.

Royal Meteorological.

The annual general meeting of this society was held on Wednesday evening, the 15th inst., at the Institution of Civil Engineers, Westminster, Mr. W. H. Dines, B.A., President, in the chair. The secretary read the report of the council for the past year, which showed the society to be in a satisfactory condition, there being an increase in the number of Fellows of twenty-eight. The Symons Gold Medal, which has recently been founded as a memorial to the late Mr. G. J. Symons, F.R.S., the distinguished meteorologist, was presented to Dr. Alexander Buchan, F.R.S., for his work in connection with meteorological science. The president, in his address, dealt with the "Theory of Probability applied to Various Meteorological Problems." He considered that for all practical purposes weather conditions may be looked upon as purely accidental, and that we may apply to them the laws of chance. They are not by any means in reality a matter of chance, for although we cannot discover it, there is doubtless a cause for each kind of weather, normal or abnormal. After speaking upon the subject of weather forecasting, he dealt with the question: How long is required to obtain a true average? He has come to the conclusion that ten years' temperature observations give a mean of which the probable error is a little under one degree. Thirty years reduce this to half a degree; fifty years to one-third of a degree, and one hundred years to one quarter of a degree. After dealing with barometer observations and rainfall, he proceeded to speak of weather almanacs, cycles, &c. In conclusion he said: Meteorology is far more than a statistical science, and is very closely dependent upon theoretical mechanics and thermo-dynamics, and in the application of these subjects to meteorology lies the best hope of advance. The council for the ensuing year were then elected, Mr. W. H. Dines being the President and Mr. F. C. Bayard and Dr. H. R. Mill, Secretaries.

Royal Caledonian Horticultural.

The annual general meeting of the Royal Caledonian Horticultural Society was recently held in Edinburgh, Mr. Neill Fraser, sen., vice-president, in the chair. The annual report stated that during the year twenty-five deaths and resignations had taken place, and sixty-five new members had been enrolled, exclusive of thirty-eight gardeners who had joined. The abstract of accounts showed that the receipts for the year amounted to £1,257 19s., and the payments to £1,314 8s. 7d. Mr. James Morrison spoke of the apathy which existed among gardeners as regarded their joining the society, and he thought thirty-eight was a miserable number, considering how many gardeners there were who might have become associated. Gardeners who took hundreds and hundreds of pounds out of the society did not even support it by half a guinea. Some discussion took place on the financial position of the society, and the report was ultimately adopted. We are sorry to notice that, even with all that has been done, this, by far the oldest of the two horticultural societies in Edinburgh (having been established in 1809), does not meet with favour and has not for years past. How long will the two societies remain disunited, and thus less influential than they ought to be and could be?

Liverpool Horticultural.

Mr. Henry Middlehurst, who presided, must have felt gratified at seeing such an excellent attendance of members and friends as that which assembled on Saturday evening at the Bear's Paw Restaurant, Lord Street, the number reaching about 150, Mr. T. Foster (chairman of the association), Mr. A. W. Ker, and Mr. Harold Sadler (secretary), supporting. The trade was largely represented, there being Messrs. B. W. Ker, F. Ker, H. Ranger, King, Baker, &c. (Messrs. R. P. Ker and Sons), W. Webster and G. Wilson (Messrs. T. Davies and Co.), C. A. Young, Floral Nursery, West Derby; J. Finnigan (H. Middlehurst), Rowland Bros., West Derby; Mr. J. Guttridge, Wavertree Botanical Gardens, and other branches of the trade. The usual loyal toasts were duly honoured, after which the programme of high-class music was cleverly rendered. The chairman briefly dealt on the pleasures and progress of horticulture, applying his remarks more particularly to the valuable work being carried out by the association and by the untiring efforts of the parks and gardens committee. For the association Mr. Foster spoke most encouragingly, saying that the finances were altogether brighter. The room was handsomely decorated by Messrs. R. P. Ker and Sons, Aigburth Nursery, and in concluding it may safely be asserted that the popularity of this annual social does not in the slightest decrease. Messrs. Ker and Middlehurst contributed most handsomely to add to the pleasure of the evening.—R. P. R.

Fifty Years of Floriculture.

The Ipswich District Gardeners' and Amateurs' Mutual Improvement Association is this winter justifying the pretensions of its title by a series of attractive lectures dealing with matters of horticultural importance. On Thursday night, January 16, an unusually large number of members assembled at the Co-operative Hall to hear a lecture on "Floriculture and Florists of the Past Fifty Years," by Mr. Richard Dean, V.H.M., of Ealing, a veteran horticulturist. Since 1857, when, on the death of Mr. John Edwards, Mr. Dean accepted the position of hon. secretary to the National Floricultural Society, he has been an arduous worker in almost every horticultural movement. Mr. Dean began with the formation of the National Floricultural Society in 1851. The forties and early fifties were times of very great public excitement, which found its way to some extent into the horticultural world. The Potato disease of 1845 in Ireland, and the French Revolution of 1848, were the principal causes of this excitement. He regarded the early fifties, however, as the golden age of floriculture in this country, because in those days some of the leading florists' flowers were seen emerging from elementary into improved forms. At that time the Floricultural Society was remarkably well represented in the Eastern Counties; illustrious amongst whose florists must be written the name of Ben Cant. Contemporaneously with the existence of the Floricultural Society was a society devoted to the interests of fruit, but both institutions were dissolved in 1857, when the Royal Horticultural Society took over the duties formerly carried out by the two societies. Continuing, Mr. Dean recalled many names of leading horticulturists with whom he was contemporary, and traced the origin, development, and gradual progress towards perfection of large numbers of the best-known florists' flowers. In conclusion, he observed his soul was filled with deep thankfulness to the men he had known in the past for their splendid work, and for the magnificent heritage of floral wealth they had handed down to the present generation. The lecture was throughout punctuated with applause, and on the motion of Mr. W. Messenger, seconded by Mr. W. H. Southgate, a cordial vote of thanks was accorded Mr. Dean.—("Ipswich Evening Star.")

Pear, Winter Nelis.

"This was raised early in the last century by M. Jean Charles Nélis, of Malines, in Belgium, and was introduced to this country in 1818 by the Horticultural Society of London." (Vide "The Fruit Manual.") It is grown in many gardens, and is generally considered a sure, good cropper, and one of the choicest varieties in the matter of flavour. We take the liberty to quote the description given in four leading fruit catalogues. First, Messrs. Geo. Bunyard and Co. say: "Fruit small, rich, and melting when well grown; succeeds best on a wall, or as an espalier or pyramid; must not be planted in cold soils, as the tree is tender; quite first rate. Quince stock. Nov.—Jan." Messrs. Clibrans, Manchester, report: "Medium, roundish, fine-grained, and melting; exceptionally rich flavour, with a pleasant, refreshing aroma; hardy and very prolific; makes a very handsome small pyramid." Messrs. Rivers and Son: "The Winter Nelis is one of the most delicious, melting winter Pears, perhaps



PEAR, WINTER NELIS.

INTRODUCED IN 1818; ACCORDED F.C.C. BY R.H.S. ON JAN. 14TH, 1902.

not equalled in its season; forms a very pretty, but not a robust, pyramid, and a most fertile little bush; requires a wall in cool climates." And fourthly, Messrs. J. R. Pearson and Sons, of Chilwell Nurseries, Lowdham, write of it: "Small, delicious from a wall, and will fruit in the open on Quince stock in the Midlands. A hardy, good cropper, and one of the best for quality." It will thus be seen that opinion is unanimous about its being a fertile variety of Pear, and one of the highest quality. It is now a good time to secure and plant a number of trees, and the honour of a First Class Certificate from the Fruit Committee at the Royal Horticultural Society's meeting on the 14th inst. has at least drawn special attention to an old Pear that we should not now like to be without.

Hyacinths Diseased.

Possibly others of our readers besides "Chelwood," whose query is answered in our correspondence columns this week, have bulbs that are diseased. We therefore direct attention to the means of combating, or arresting, disease, as given in the answer to which we refer.



Fruit Forcing.

VINES: EARLY FORCED IN POTS.—Attention must be given to thinning the berries as soon as well set, and although it is desirable to thin them somewhat freely, it is essential that enough be left to form compact bunches. The temperature should be maintained at 65deg at night, falling to 60deg on cold mornings, 65deg to 70deg by day, admitting air at 75deg, increasing the temperature with sun heat to 80deg or 85deg, closing the house at 80deg, with a prospect of an advance to 85deg or 90deg, at the same time damping the paths; also, sprinkle all similar surfaces in the morning and in the evening, when sharp firing is had recourse to, but avoid creating a steam. Great care is necessary in ventilating, admitting a little air at a time, so as not to reduce the temperature, but to prevent it rising suddenly to an unsafe point. Afford copious supplies of liquid manure a few degrees warmer than the mean temperature of the structure.

EARLY FORCED, PLANTED-OUT VINES.—Give attention to tying the shoots and stopping the laterals. The shoots may be stopped two or three joints beyond the fruit. Where the space is restricted they may be pinched to one joint, or even at the bunch. The axillary growths may be stopped at the first leaf, and to one joint afterwards, as fresh growth is made. If this is likely to interfere with the principal leaves, the laterals may be rubbed off, except from the two lowest leaves, those on a level with and above the fruit being stopped to one joint. It is of the utmost importance that the principal foliage be fully exposed to light and air, overcrowding being highly prejudicial; at the same time, very close stopping is not to be recommended where there is room for extension, as an increase of foliage promotes root action, therefore preserve all foliage consistent with full exposure to light. If there are no evaporation troughs in the houses, the floors and borders may be sprinkled with neat stable or cow house drainings, diluted with five times the bulk of water, three gallons of the liquid thus diluted sufficing for sprinkling a square rod of paths or borders.

Houses in which Vines are in bloom should have a steady night temperature of 65deg maintained, 70deg to 75deg by day, and 80deg to 85deg or more, from sun heat. Black Muscat and even Madresfield Court, also Muscat of Alexandria, and other varieties liable to set indifferently, may be assisted by topping the bunches every day, or, more certainly, by applying ripe pollen, drawing a brush lightly over the bunches. A constant circulation of dry warm air is conducive to a good set, and it is advisable not to stop the growth closely during the setting period. If any varieties are deficient of pollen, it may be taken from those affording it freely, as Black Hamburgs, collecting it in a sheet of paper, and then loading a brush with it, pass it on the bunches of the shy setters.

VINES STARTED AT THE NEW YEAR.—Continue to syringe the rods twice a day until the bunches are formed, when that is best discontinued, but maintaining plenty of atmospheric moisture by damping the paths and borders three times a day. Increase the temperature to 55deg at night, and 60deg to 65deg by day, with an advance from sun heat to 75deg, and ventilation in accordance with the state of the weather. It is desirable to keep up a supply of ammonia in all houses by turning over the fermenting materials and adding fresh droppings, or, if this be objected to, the house may be sprinkled with liquid manure, the evaporation troughs being kept filled with the same.

HOUSES OF LATE GRAPES.—These may now be removed to a dry room, where they will keep quite as well as if left on the Vines. Cut the bunches with as much wood as can be spared, and place the stems in bottles filled with clean rain water, each containing a few bits of charcoal. Fix the bottles in an inclined position, so as to admit of the berries hanging clear of the sides, and they should be so far apart as not to allow the bunches to touch each other. Keep the temperature of the room at about 45deg, examining the Grapes occasionally for decayed berries, which must be carefully removed. Prune the Vines, dressing the cuts carefully with patent knotting or best French polish. Cleanse the house thoroughly, and dress the Vines with an insecticide or combined fungicide. Admit air freely in favourable weather, seeking to give the Vines as complete rest as possible. When the Vines are not satisfactory, lift them and relay the roots in fresh compost. Where the Vines have inside and outside borders the renovation may be accomplished without loss of crop by renewing the former one year and the latter the next.—ST. ALBANS.



* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

REPORT OF I.W.C.C. GARDEN.—Hope to use this very soon.

CORRECTION.—Our remarks under Trade Notes on page 68 last week, regarding Messrs. Richardson and Co.'s new catalogue, named this firm as Messrs. Darlington and Co., which mistake was possibly apparent to most of our readers.

FERNS UNSATISFACTORY (J. D.).—You appear to suffer from a plague of pests—slugs and weevils—which can only be eradicated by the catch-'em-and-kill-'em process. If you persist in this nightly success must ultimately be yours. The dying off of the young fronds may be due to their being eaten by the slugs or weevils near the ground, and probably the grubs of the weevils are eating the roots and rhizomes away. We, therefore, advise the plants to be turned out of the pots, and a careful scrutiny being made by removing as much of the old soil as safe; repot in entirely fresh compost this spring, then, with a moist, genial atmosphere, and shading from bright sun, we do not see why the growth should not be satisfactory.

DESTROYING COCKROACHES AND CRICKETS (J. D.).—"A good recipe for ridding or catching beetles, cockroaches, and crickets would oblige. Traps are no good; Keating's powder they won't touch; and they do infinite damage."

The phosphor paste sold by chemists has stood us to good advantage against these pests, it being spread on thin slices of bread, and placed in the haunts of the insects at night, and removed in the morn'g. Chase's beetle poison, and also Ramsden's, have proved with us very successful, and may be obtained through a chemist. These preparations are better than home-made, as phosphorus is not an article to be tampered with, especially by other hands than chemists, or those with a knowledge of chemistry.

SMALL CIRCULAR SPOTS ON APPLE TREE SHOOT (R. C. B.).—"I shall be much obliged to you if, through your paper, you will inform me what is the nature of the circular spots on enclosed piece of Apple tree. One tree of five or six in the row shows many, the rest only a few of the spots. Is a remedy needed? And, if so, what?"

The small spots are only cuticular, and do not affect the bark proper, and probably arise from some natural peculiarity of individual or of variety, the circular specks being common to some varieties, and not present on others. Under the microscope there does not appear any trace of animal or vegetable pests, nor of the circular spots being due to the agency of either, but are probably due to chemical agency. We do not consider any remedy needed, but advise a dressing of the fertiliser the formula of which was given in our issue of January 16, 1902, page 70, in reply to "Rose."

DENDROBIUMS DENSIFLORUM AND WARDIANUM.—SEEDLING RICHARDIA-ELLIOTTIANA, CLIVIAS, AND AMARYLLIS (Ignoramus).—"Will you kindly inform me as to whether the same house and treatment under which Dendrobium nobile is flourishing would be suitable for D. densiflorum and Wardianum? Also, should seedling Calla Elliottiana, Clivias, and Amaryllis raised last spring be kept in a high temperature to grow them on rapidly?"

The Dendrobiums will succeed in the same house as that in which D. nobile is flourishing, only having regard to the different times of flowering and giving rest. Of course, you are aware that D. densiflorum is an evergreen species, and flowers in April and May. D. Wardianum, on the other hand, is deciduous, requires to be grown in a basket or on a block of wood, as its stems are long and pendulous. During the growing season it enjoys an abundant supply of water, with a good heat; but, when the growths are complete, the plant should be removed to a cool house or atmosphere, and less water, as a matter of course, will suffice. Yes, the seedlings of Richardia (Calla) Elliottiana, Clivias, and Amaryllis, raised last spring, should be kept in a high temperature to grow them on rapidly, and thus secure flowering at as early a date as possible. It is, however, necessary to inure to all the light possible, so as to secure a stout growth, for on this strong, healthy growth greatly depends.

QUERY.—A correspondent wishes the address of the Fruit Growers' Association. Can anyone oblige?

HARMONISING COLOURS (R. Craigie).—Your suggestion will receive attention; thanks for it, we are here to assist.

FORCING WHITE LILAC IN WATER (May).—"How is this carried out in France, where, I am told, it is bloomed simply in bottles and jars of water kept in the dark, or cellars, from stems, or flowering branches, now in bud out of doors? Any information will oblige."

The branches, or shoots, that are set with flower buds are simply cut with as much wood as can well be spared from the bushes without spoiling their appearance, always having at least a few inches of two-year-old wood, better several, and even some three years old, the ends being placed in bottles or even jars, filled with rain water, and these placed in a dark place, such as a cupboard or cellar, where the temperature ranges from 60deg to 65deg, though a heat of 55deg will bring the growth on slower, and the heads of bloom will be finer in consequence. The chief thing is to make sure of branches with flower buds; then they merely develop, this being at the expense of matter stored in the portion of branch.

IRISES FOR DRY BANK (Iris).—"Will you advise what kind of Irises to plant on a dry bank facing south? The bottom of the bank touches the water in winter. In summer the water dries up to a certain extent, leaving the bottom of the bank dry. We want to plant some tall-growing Irises, such as Ochroleuca. I shall be glad of any information."

You could not have anything better than the German Iris—Iris germanica species or varieties—as they succeed in every soil and situation, doing well in dry places and on water margins, and offer a great variety of colour of flowers, and the leaves and stems often rise to a height of 2ft or 3ft. Canary Bird (yellow), Jenny Lind (yellow and dark purple), Laura (pale yellow and deep purple), Louise Meyer (deep yellow, black, and purple), Louise de Saxe (yellow and violet), and Vondel (golden striped, violet), Othello (yellow and violet), and Vondel (golden yellow with bronzy purple) are of the colours you seem to require; but there are many other shades, all beautiful, from a list which you may select according to taste.

SCALDING LEAF MOULD (G. S., Somerset).—To scald the leaf mould is to render it for a long time unfit for use, as it takes a considerable time to regain the condition of neither wet nor dry, but moist, for mixing with other material in forming compost. The scalding certainly destroys insect pests and germs of fungoid pests, and on that account is an advantage. A great heat not only destroys pests, but also sterilises the material for the use of crops, the organic matter being destroyed, hence the mineral only remains. Thus some steamed soil was rendered practically sterile, whilst that only scalded or heated not above boiling point (212deg) retained its fertilising value. For freeing soil from pests there is nothing better than the old-fashioned practice of stacking turf until the herbage and its roots are thoroughly rotted, and not using leaf mould until it is thoroughly decayed, also manure and other vegetable animal substances. As for cleansing materials, there are not any better than lime, soot, and kainit, the latter and basic slag phosphate being used advantageously with turf in stacking at the rate of about 1 per cent.

FAILURE WITH BULBS (Chelwood).—The Roman Hyacinths are infested with the disease known as bacteriosis, well known in Holland as attacking Hyacinths in the resting condition, and also shows itself in the foliage. The parasite, named Bacterium hyacinthi, produces yellow or light brown spots on the bulbs or leaves, this matter being a yellowish or brownish mucus teeming with bacteria, and is located in the vessels and intercellular spaces of the fundamental tissue. Infection of healthy plants with this mucilage produces the disease. The bulbs in your case only are affected, and they have no young roots: but the top growth is well advanced, yet there are no traces of flower spikes, and the disease is descending by the central scales, and will probably destroy the "hearts." On cutting a bulb through vertically we found no evidence of a flower spike, hence the non-flowering is due to not any flower spikes being formed in embryo during the previous season. Possibly treatment with a mixture of two parts air-slacked lime and one part flowers of sulphur would arrest the disease; but on these points experience alone can give anything definite. It should be well dusted on affected leafage, and the bulbs well rubbed in it.

NAMES OF PLANTS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (J. T., Leicester).—1. Crassula laetea; 2. Mesembryanthemum aurantiacum; 3. Eupatorium Weinmannianum; 4. Nepeta Glechoma variegata. (Zoe).—1. Acacia albicans; 2. Acacia linearis; 3. Toxicophlea spectabilis. (A. J.).—1. Hamamelis arborea, or Witch Hazel; 2. Selaginella graeca. (N. B.).—1. Arundinaria nitida; 2. Bambusa metake; 3. Arundinaria Fortunei var.

An Observer's Notes.

Under this heading there are many short interesting notes our readers might send.

JANUARY 24-30.		PLANTS DEDICATED TO EACH DAY.
Fri. 24	Anemone Hepatica flowers.	Winter Aconite.
Sat. 25	Hazel (male) flowers.	White Butterburr.
Sun. 26	* House flies astir on windows.	Earth Moss (Phasum).
Mon. 27	Stinking Hellebore flowers.	Double Daisy.
Tu. 28	Daisy flowers.	Royal "flowering" Fern.
Wed. 29	Witch Hazel flowers.	Common Maidenhair.
Thrs. 30	Honey bee flies abroad.	Hart's-tongue Fern.

* This applies to their first appearance in activity, in rooms where there is no fire.

In countries where the Roman Catholic religion prevails, every day of the year is the anniversary of some saint, to each of whom a plant is dedicated, and is worn by anyone on that anniversary, if he wishes to evince especial reverence for the saint then commemorated. Those saints are wiped from "An Observer's Notes," but the flowers, we think, may well be retained; because they have been so selected as to be brought to our notice at the time of their greatest beauty, or at the time when they may be most useful. The flowers are as an ever-present voice, speaking to us out of the "midst of the garden." In the "Notes" to-day we have "the Winter Aconite," the yellow blossoms of which are now to be found in our borders, of which they have been the earliest ornament ever since the plant's first introduction from Switzerland in the year 1596. Its botanical names are now *Eranthis hyemalis*, or Winter Flower of Love; for it tells us, if we will but accept the lesson, that though all appears dull and dreary, yet that providential care and love are silently about our path, and that there can be but one answer to this question,

Since outward life requires them not,
Then wherefore had they birth?
To minister delight to man,
To beautify the earth.

The Daisy, the Mosses, and the Ferns, which comprise the other plants in this day's "Notes," offer the same reply; but they tell us much more. At this time of the year, when in our climate the more noble plants are at rest, and their functions almost suspended, these humbler and more hardy plants come forth to supply their place. We before explained (p. 67) that plants supply the atmosphere with the vital air (oxygen) necessary for our breathing. The Aconite, the Daisy, the Moss, and the Fern are now performing this important office.

Trade Catalogues Received.

R. H. Bath, Ltd., The Floral Farms, Wisbech.—*Seeds, also Carnations, Pæonies, Pansies, Violas, &c.*

John Forbes, Buccleuch Nurseries, Hawick, Scotland.—*Seeds.*

Harrison and Sons, Royal Midland Seed Warehouse, Leicester.—*Price List for 1902.*

Kelway & Sons, seed-growers, Langport, Somerset.—*Seeds.*

Friedr. C. Pomrencke, seedsman, Altona, Hamburg.—*Seeds.*

Pope & Son, Central Avenue, Market Hall, Birmingham.—*Seeds.*

Thomas S. Ware, Ltd., Hale Farm Nurseries, Feltham, Middlesex.—*Seeds, Begonias, Gladioli, Chrysanthemums, Dahlias, Lilies, &c.*

Publications Received.

The War in South Africa: its cause and conduct; by A. Conan Doyle. Geo. Newnes, Ltd.; price 6d. * * *Garten Flora: January 15th.* * * *Journal of the Department of Western Australia: December, 1901.* Chief contents: Insectivorous Birds of W.A. (illustrated); Plain Talks on Manures; The Red Pear-mite; Importation of Indian Oranges; Lime and its Application to the Soil. * * *Le Jardin.* * * *My Garden Diary for 1902: Messrs. Sutton and Sons, Reading.* A well known little annual, containing abundance of timely hints on the sowing of seeds and general routine work of the garden; has also pages for memoranda notes, calendar, and Monthly Notes of affairs in general. * * *The American Florist* (we note page marked). * * *Le Mois Scientifique.*

Trade Notes.

A new edition of Mr. William Watson's book on "Orchids" is being prepared, and will appear before long. L. Upcott Gill is the publisher. Another edition of Mr. W. Robinson's "Alpine Flowers" (John Murray, London) will also appear in a short while.

Mr. J. Williams, 4A, Oxford Road, Ealing, W., has designed a new form of his graceful epergnes. This new epergne is designed to facilitate lightness of decorations, there being also no obstruction to the view across table, the centre stem being left free from decoration. The flower holders are at the base, and at the top, the central stem being 25in high. We hope very

shortly to depict an illustration of this useful and graceful epergne.

The firm of Mr. John Downie having quitted part of their Beechhill Nursery about a year ago, took a long lease of Belgrave Park, situated on Corstorphine Hill, Edinburgh. This they have now laid-out and planted with Roses, fruit trees, shrubs, &c. We trust to have further notes regarding the change.

Covent Garden Market.—January 22nd.

Average Wholesale Prices.—Plants in Pots.

Most of the undermentioned plants are sold in 48 and 32-sized pots.

	s.	d.	s.	d.		s.	d.	s.	d.
Aralias, doz. ...	5	0	12	0	Ferns, var, doz. ...	4	0	18	0
Araucaria, doz. ...	12	0	30	0	Ferns, small, 100... ..	10	0	16	0
Aspidistra, doz. ...	18	0	36	0	Ficus elastica, doz. ...	9	0	12	0
Azaleas, white and coloured, doz. ...	30	0	36	0	Foliage plants, var, each	1	0	5	0
Begonias, Gloire de L., per doz. ...	9	0	10	0	Grevilleas, 48's, doz. ...	4	0	5	0
Carex variegata ...	0	0	0	0	Lycopodiums, doz. ...	3	0	0	0
Crotons, doz. ...	18	0	30	0	Marguerite Daisy, doz. ...	8	0	10	0
Cyclamen, doz. ...	10	0	12	0	Myrtles, doz. ...	6	0	9	0
Cyperus alternifolius per doz. ...	4	0	5	0	Palms, in var., doz. ...	15	0	30	6
Dracæna, var., doz. ...	12	0	30	0	„ specimens ...	21	0	63	0
Dracæna, viridis, doz. ...	9	0	18	0	Pandanus Veitchi, 48's, doz. ...	24	0	30	0
Erica caffra, doz. ...	15	0	18	0	Primulas ...	3	0	4	0
„ byemalis ...	9	0	10	0	Shrubs, in pots ...	4	0	6	0
„ alba ...	10	0	12	0	Solanums ...	8	0	10	0
Eulalia japonica ...	0	0	0	0	Spiræa japonica, 48's, doz. ...	10	0	12	0

Average Wholesale Prices.—Cut Flowers

	s.	d.	s.	d.		s.	d.	s.	d.
Acacia "mimosa," per pad ...	6	0	8	0	Lilium Harrisii ...	3	0	4	0
Anemone, double pink, per doz. ...	1	6	2	0	Lilium lancifolium alb. ...	2	0	2	6
Arums, doz. ...	2	0	3	0	Lilium l. rubrum ...	2	0	2	6
Asparagus, Fern, bnch. ...	1	0	2	0	Lilium longiflorum ...	3	0	4	0
Azalea mollis, per bun. ...	1	0	0	0	Lily of the Valley, 12 bnchs ...	6	0	12	0
Bouvardia, white, doz. bunches... ..	6	0	8	0	Maidenhair Fern, doz. bnchs. ...	6	0	8	0
Bouvardia, coloured, doz. bunches... ..	6	0	8	0	Marguerites, white, doz. bnchs. ...	2	0	4	0
Camellias, white... ..	1	6	2	0	„ yellow, doz. bnchs. ...	2	0	0	0
Carnations, 12 blooms ...	1	3	1	9	Myrtle, English, per bun. ...	0	6	0	0
Cattleyas, doz. ...	8	0	12	0	Narcissus, paper white, doz. bunches... ..	2	0	2	0
Chrysanthemums, specimen blooms, doz. ...	1	0	4	0	„ Soleil d'Or ...	3	0	0	0
„ white, doz. bnchs. ...	0	0	0	0	„ double Roman ...	1	6	2	0
„ coloured, per doz. bunches ...	0	0	0	0	Odontoglossums ...	4	0	0	0
Croton foliage, bun. ...	0	9	1	0	Orange blossom, bun. ...	2	0	3	0
Cycas leaves, each ...	0	9	1	6	Primula, double white, doz. bunches... ..	6	0	8	0
Cypripediums, doz. ...	2	0	3	0	Roses, Niphetos, white, doz. ...	2	0	3	0
Daffodils, single, doz. ...	7	0	8	0	„ pink, doz. ...	4	0	6	0
„ double „ ...	6	0	8	0	„ yellow, doz. (Perles) ...	2	0	3	0
Eucharis, doz. ...	2	0	3	0	Smilax, bnch ...	3	0	4	0
Freesias, doz. bunches ...	2	0	3	0	Tuberose, gross ...	8	0	0	0
Gardenias, doz. ...	6	0	0	0	Tulips, white, single, doz. bun. ...	9	0	12	0
Geranium, scarlet, doz. bnchs. ...	4	0	6	0	„ coloured, doz. bun. ...	9	0	12	0
Hyacinth, Roman, doz. bunches... ..	7	0	8	0	„ scarlet, single, doz. bun. ...	4	0	5	0
Ivy leaves, doz. bun. ...	1	6	0	0	Violets, single, doz ...	1	6	0	0
Lapageria alba ...	0	0	0	0	„ double, doz. ...	3	0	4	0
Lilac, French, white, per bun. ...	4	0	4	6					

Average Wholesale Prices.—Fruit.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, cooking, bush. ...	6	0	8	0	Grapes, Alicante, lb. ...	1	0	1	6
„ Newtowns, case ...	10	0	12	0	„ Colman ...	1	0	1	6
Bananas ...	8	0	12	0	„ Muscat ...	3	6	5	0
Cranberries, 30 to 36 qt. consignment ...	9	0	10	0	„ Almeria ...	0	0	0	0
Dates, red V., doz. bxs. ...	5	6	0	0	Oranges, per case ...	10	0	25	0
Lemons, Messina, case ...	12	0	16	0	Pears, French, crate ...	12	0	0	0
					Pines, St. Michael's, each ...	2	6	3	6

Average Wholesale Prices.—Vegetables.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes, green, doz. ...	2	0	3	0	Lettuce, Cabbage, doz. ...	1	3	2	0
„ Jerusalem, sieve ...	1	6	0	0	Mushrooms, forced, lb. ...	0	5	0	6
Batavia, doz. ...	2	0	0	0	Mustard & Cress, pint. ...	0	2	0	0
Beans, French, per lb. ...	2	0	0	0	Parsley, doz. bnchs. ...	2	0	3	0
Beet, red, doz. ...	0	6	0	0	Potatoes, English, cwt. ...	4	0	5	0
Brussels Sprouts, ½ sieve ...	2	0	3	0	Radishes, doz. ...	1	6	0	0
Cabbages, tally ...	1	6	3	0	Seakale ...	0	9	1	0
Carrots, doz. bnch. ...	2	0	2	6	Shallots, lb. ...	0	2	0	3
Cauliflowers, doz. ...	2	0	3	0	Spinach, bush. ...	2	0	3	0
Corn Salad, strike ...	1	0	1	3	Spruce, French, doz. bun. ...	8	0	9	0
Cucumbers doz. ...	10	0	15	0	Tomatoes, Canary consignment ...	6	0	0	0
Endive, doz. ...	1	0	1	3	Turnips, doz. bnch. ...	2	0	3	0
Herbs, bunch ...	0	2	0	0	Watercress, doz. ...	0	6	0	0
Horseradish, bunch ...	1	6	0	0					
Leeks, bunch ...	0	1	2	0					



How the German Labourer Fares.

On all hands we hear of the dearth of the English agricultural labourer, and we are told that (in the main) we have only ourselves to thank for it. We pay him badly; we house him worse; we offer him and his no advantages; there is no prospect before him but the work-house, and that altogether his is an evil case. Well, as to the pay. In the first instance, we must get at the value of the commodity the man manufactures, for, after all, the farm is a factory out of doors. What does the man do? He is engaged in the production of certain articles of consumption, food and clothing, both in a raw state; and if that food and clothing is quoted (as it is now) at a low figure, the man can only have his share of the profit, which profit has to be divided with the owner of the land and the occupier, who also provides the capital. The man's capital is his labour, and for that we maintain he gets good interest, much better than that obtained by his fellow capitalists. Ask any landlord to-day as to the percentage he is deriving from his acres; he will not have a very brilliant record. Ask the majority of farmers how they fare; they shake their heads, and say it is but a poor game. Personally, we wonder how many of them keep their heads above water. Those that do, possibly are still living in a great measure on the savings of the years of plenty, or on hope, which is but an unsatisfactory form of nourishment.

When was the English labourer better off than at present? When had 1s. greater purchasing powers? Just consider for a moment the price of every commodity which a working man needs. We need not go into details—every little grocer's shop answers the question. At what period of the world's history had a working man more comforts than now? He has far less anxiety and care than the majority of workers belonging to the lower middle class. His children are educated free; he has clubs and benefit societies on every hand, and a good man need never be a day out of work. In spite of all that has been said, the majority of the cottages have good gardens, and allotments are plentiful everywhere. He is practically master of the situation, and is perfectly independent of any master. There were days when the wife was glad of her earnings to help the family purse. Now, to see a woman at work in the fields is the exception rather than the rule. We are glad it is so; but this shows, we think, that the pressure of poverty is not so severe. We would rather have the women at home looking after their families.

We wonder how our English labourer would like the lot of his German brother? We have just come across some little account of the German agricultural labourer in a book by Mr. Harbutt Dawson, which has rather opened our eyes. Agriculture is protected in Germany by high import duties; but the poor worker is by no means protected. When we hear that the average wage for the rural labourer is well under 2s. per day, with 1s. for the wife, the prospect does not look bright. Twelve hours is the average day, but in some parts of West Prussia it is lengthened out to sixteen, and of the man's earnings the rent of the cottage has to be paid. In many cases the man not only works himself, but binds his wife, and all the available children too, to work for his employer—very much like the old system of serfdom. We copy here an agreement between a Lord of the Manor and his labourer, it reads rather like the dark ages:—

"The Lord of the Manor offers his labourer a dwelling, with 60 sq. roods of garden and 50 of Potato land, for £3 15s. per annum, rent to be deducted weekly out of the wage of 1s. 6d. per day. He may not keep a goat or cow, but can buy new milk at 1d. per litre (one pint and three-quarters), old milk at ½d. He may keep a pig and a few hens, and has litter free. He must find his own food and doctoring. Fuel is conveyed at 3s. per load, if the distance is under three miles. Seed Potatoes are supplied at the rate of 6d. per square rood. He repairs his dwelling, the landlord finding material. He and his family bind themselves only to work on that Lordship, and at the following wages:—For himself

during winter, 1s. 6d. per day; during summer, 1s. 9d.; with 6d. per day extra during the six weeks of harvest. His sons, once twenty years old, are paid at the same rate. His wife has 9d. in winter, and 1s. in summer, with no extras for harvest."

We think this needs no comment; and then the man has not the field to himself. He is confronted with Polish cheap labour. Any quantity of Poles can be got, who are paid at the rate of 1s. to 1s. 6d. per day, and live on Potatoes and sleep on sacks. If the farm hand emigrates to the town he does not improve himself much. The rents are very high, and the wages are not high in comparison. Mr. Dawson says:—"In the steel, iron, and coal industries, the average earnings do not exceed £1 per week, and in the textile trades this average is not reached. The hours, too, are twelve, as against our nine, and there is no Saturday half-holiday. All German industries are in a depressed state. How long would our workmen endure a diet of sauerkraut, sausages, and black bread? We should be going back 100 years."

We are not saying all this because we think our men deserve no better lot. Not at all; only we feel if our men would but look abroad they might see that, after all, and in spite of their incessant grumble, they are far and away better off than their German compeers. We fear this does not only apply to Germany alone, but to most of the other Agricultural States of Europe—dare we say the world? It appears that the system of "Protection," instead of raising wages has a downward tendency; how it is we cannot understand. We should like a bit of "Protection" sometimes; but it seems as though we might as well cry for the moon. If this is the result of Protection, may it be far from us! We see the Americans are loud in their outcry against the importation (under a heavy duty) of what they call "Pauper Potatoes"—why pauper we fail to see. At the price at which they will have to be retailed to cover initial cost, carriage, and duty, they appear to us to be only luxuries for the rich. What would they say had they to contend with cheap Germans that are landed here without a penny of duty? And how would they take it if we were in a position not to need their superfluous cargoes of food stuffs? In that case they would have good cause for complaint.

Work on the Home Farm.

We have got rid of the surface water at last. As soon as the ground frost melted there was little trouble, but the floods have, we fear, left their mark. At the present time there is a keen black frost, with every indication of snow, so perhaps we have not seen the last of winter. Work on the land is still out of the question; but a few fine days may make all the difference, and we must be ready to take advantage of any change for the better. The question of manures is already occupying the attention of farmers, and, as there is no likelihood of any fall in values, they will act wisely in immediately purchasing their supplies at current rates and urging immediate delivery. By so doing they insure themselves against bad delivery, and also take the opportunity of a slack time to get their manures on the premises. It is rather galling to be carting manures from the station, wharf, or warehouse in fine March weather, when the sun is shining and the dust blowing, and everything is favourable for making overtime with the drill. How to keep the horses in healthy exercise seems to be the present problem. We have cleared the yards of manure as much as is advisable in midwinter, and though the Potato trade is brisk, supplies are short enough to suggest a little speculation in futures, so delivery is stopped for the present. Sanguine souls are predicting a rapid rise to £5 per ton, but in these go-ahead days prophecy is apt to go unfulfilled.

The washing, cleaning, and painting of farm implements might well occupy any spare time. Carts, for instance, which are nearly always at work for some purpose or other, may have a little respite just now, when a thorough cleaning, followed by a coat of paint, may put off indefinitely a serious bill for repairs. A farmer will give £12 to £15 for a new cart, which may run for twelve or fifteen years, waiting in vain for a coat of paint until it has fallen into the hands of the village wheelwright, who, like the spider, having once got it into his clutches, will gladly paint it all the colours of the rainbow if he, by so doing, may attract other flies.

We have seen no lambs yet, though probably there are some in sheltered nooks out of sight. Ewes, whether near lambing or lying off until March, must be liberally fed. Hay is too dear to give to sheep, and straw is very scarce, being of more use and value amongst the cattle. Dried grains or malt culms are excellent dry foods for sheep, and at similar prices we prefer the latter. Their value as manure is something like £3 per ton, and they are a very healthy food for ewes, but we should not give them to young lambs. The feeding sheep are a little more comfortable, but their lair is not exactly a bed of roses yet.

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2 " Beet	2 " Melon
2 " Borecole	6 ozs. Mustard
3 " Broccoli	4 " Onion
2 " Brussels Sprouts	2 kts. Parsley
3 " Cabbage	2 ozs. Parsnip
1 " Capsicum	4 " Radish
4 ozs. Carrot	1 Pkt. Salsify
2 Pkts. Cauliflower	2 " Savoy Cabbage
2 " Celery	2 " Scorzonera
1 " Couve Tronchuda	6 ozs. Spinach
4 ozs. Cress	6 Pkts. Herbs
3 Pkts. Cucumber	2 " Tomato
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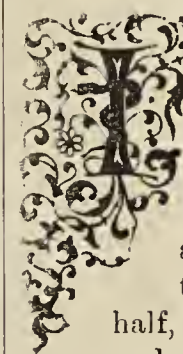
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Journal of Horticulture.

THURSDAY, JANUARY 30, 1902.

Chrysanthemum Analysis.



It is now two years since we had an election of Japanese and incurved varieties for the benefit of the readers of the *Journal of Horticulture*, and

although the number of persons taking part in it is less by one-

half, it cannot fail to be interesting, and a valuable aid in selection for

those for whom it is mainly conducted—beginners. Invitations were sent to three dozen of the prominent private cultivators, exhibitors, judges, and experts. Replies have been received from but sixteen, which shows some apathy on the part of those invited. During the past three months I have received many encouraging letters from what may be termed "small" men in the Chrysanthemum world asking for a continuance of this audit for their benefit. It will be admitted, I think, that the present selection of fifty varieties contains but a few that can really be named coarse, which is a distinct proof that there is a general consensus of opinion amongst electors that quality in Chrysanthemum blooms is of the utmost importance in competition. Thanks to the efforts of raisers of new varieties generally, and especially to the mass of home producers and judges, those varieties that are distinctly rough and coarse are now becoming quite things of the past.

As was to be expected, whether the electors are many or few, there are certain standard sorts that are of such high quality on the exhibition table that they cannot be omitted by the electors, hence the number receiving an equal share of votes. With the exception of Mons. Chenon de Leché there is not a single variety amongst those who tie for supremacy in the present election that occupied a similar post two years since.

READERS are requested to send notices of Gardening Appointments or Notes of Horticultural Interest, intimations of Meetings, Queries, and all Articles for Publication, officially to "THE EDITOR" at 12, Mitre Court Chambers, Fleet Street, London E.C., and to no other person and to no other

cannot be said that those which oust in the present instance the varieties of two years ago are superior in point of quality, but the cause for decline in popularity lies in the fact that varieties generally, after a few years of high cultivation, lose some portion of their vigour, and are unable to put forth blossoms equal in quality for a prolonged period.

Fifty Best Japanese Varieties.

16	Florence Molyneux	3	Mrs. Bagnall-Wild
16	Mrs. Barkley	3	Edith Dashwood
16	Le Grand Dragon	3	Simplicity
16	M. Louis Remy	3	R. Hooper Pearson
16	M. Chenon de Léché	3	W. H. Whitehouse
15	Madame Carnot	2	Duchess of Sutherland
15	Mrs. J. Lewis	2	Godfrey's Masterpiece
15	Australie	2	Godfrey's Triumph
15	G. J. Warren	2	General Hutton
14	Edwin Molyneux	2	Mrs. C. Griffin
14	Mrs. W. Mease	2	Phyllis
14	W. R. Church	2	Millicent Richardson
14	Miss Alice Byron	2	Pride of Exmouth
14	Nellie Pockett	2	Marquis V. Venosta
14	J. R. Upton	2	Oceana
14	T. Carrington	2	Eva Knowles
13	Mrs. H. Weeks	2	J. E. Clayton
13	Mr. G. Mileham	2	Princess B. de Brancova
13	Madame Herrewége	2	Mrs. J. McKellar
12	Lord Ludlow	2	Louise
12	Lily Mountford	2	Rev. W. Wilks
12	Lady Hanham	2	Ella Curtis
11	Mrs. Coombes	2	Western King
11	Calvat's '99	2	Julia Scaramanga
11	Phœbus	2	Jesse Cottee
11	Edith Tabor	2	Madame G. Bruant
10	Mrs. Greenfield	2	The Wonderful
10	Mrs. J. Bryant	2	Princess A. D. Monaco
10	Mrs. J. J. Thornycroft	2	Lady Byron
10	Henry Weeks	2	Silver Queen
10	Charles Longley	2	Exmouth Crimson
10	Mutual Friend	2	Earl of Arran
10	Lord Salisbury	2	Mons. Pankoucke
9	Madame R. Cadbury	1	Godfrey's King
9	Pride of Madford	1	Violet Lady Beaumont
9	Henry Stone	1	Mrs. J. C. Neville
9	Sir H. Kitchener	1	Marchioness of Salisbury
9	Matthew Smith	1	Hon. F. W. D. Smith
9	Vivian Morel	1	Jane Molyneux
8	Charles Davis	1	Mary Molyneux
8	George Carpenter	1	Lord Derby
8	Gustave Henry	1	Madame A. Rosseau
7	Mrs. G. W. Palmer	1	Mrs. W. H. Lees
7	Mr. A. Barrett	1	Major Plumb
7	Miss E. Pilkington	1	Madame A. Rey
7	Madame Phillipe Rivoire	1	Mrs. T. W. Pockett
7	Mrs. White Popham	1	Rev. Douglas
6	Lady Ridgway	1	Miss M. Douglas
6	Mons. Hoste	1	Mabel Morgan
6	Mermaid	1	Mark Gill
50		1	Scottish Chief
		1	Janet Lady Clark
		1	Georgina Pitcher
		1	Etoile de Lyon
		1	Duke of Wellington
		1	Nelly Perkins
		1	Col. W. B. Smith
		1	Wattleblossom
		1	Joseph Brooks
		1	Duke of York
		1	Vicar of Leatherhead
		1	May Vallis
		1	Mrs. Hummel
		1	Lady Roberts
		1	Madeline Davis
		1	Meredith
		1	Susie
		1	Lady Crawshaw
		1	J. C. Neville
		1	Swanley Giant
		1	Mrs. C. H. Payne
		1	Robert Powell
		1	Australian Gold
		1	President Nonin
		1	Secrétaire Fierens
		1	Charles Davis Improved
		152	—total number of varieties.
6	Loveliness		
6	Madame Von Andre		
6	Mrs. J. Cleeve		
6	Graphie		
6	Calvat's Sun		
5	Kimberley		
5	Surpasse Amiral		
5	The Princess		
5	Madame G. Debric		
5	C. I. Salter		
4	Emily Towers		
4	Miss Elsie Foulton		
4	Miss Evelyn Douglas		
4	Mrs. J. W. Barks		
4	General Buller		
4	Ethel Fitzroy		
4	Madame Paolo Radaelli		
4	Mrs. R. Darby		
4	Mrs. W. Cusham		
4	Lionel Humphrey		
4	N.C.S. Jubilee		
3	Queen Alexandra		
3	Sensation		
3	Bessie Godfrey		
3	Soleil d'Octobre		
3	Guy Hamilton		

Comments on Japanese Varieties.

Take Madame Carnot as an example. Nowhere was this charming variety seen in maximum condition during the past season; not even in the hands of Mr. Norman Davis, who has probably cultivated this variety better than any one. This decline in constitution opens up a very interesting theme for discussion amongst Chrysanthemum experts. As

showing the immense range of idea of what constitutes typical blooms, I have only to mention the fact that no less a number than 152 varieties are given by the sixteen electors in obtaining the fifty sorts required this time as compared with the thirty-three in 1900, who named 231 varieties then, in selecting the best sixty. The present election exhibits even a wider range of opinion. Hence my reason in asking for fifty varieties instead of sixty as last time. Where so many varieties are named in tabulation, those cultivators who wish to go outside of the selected fifty or sixty for the sake of variety, or an individual weakness for a particular sort, quickly find themselves again in a dilemma, assuming, of course, they possess but little knowledge of those they select. Here, then, is an opportunity for improvement for a future audit—a specific number (if an increased one) for large growers, and a second selection for smaller cultivators, publishing no names beyond those selected for the specified number.

In the present audit it will be admitted that the five varieties which are equal in number of votes, are all typical examples, each, in their individual form, of what Japanese Chrysanthemums should be. A similar remark can be made to the succeeding quartet. No less than seven tie for third place, and, without exception, they are all of desirable form, covering also a wide range of colour. In the first fifty, raisers and introducers appear to have the honours equally divided—home and foreign. Owing to want of space I will leave my further remarks on individual varieties for a future issue of the Journal.

Thirty-six Best Incurved Varieties.

12	C. H. Curtis	3	Baron Hirsch
12	Duchess of Fife	3	Mrs. S. Coleman
12	Mrs. H. J. Jones	3	Edith Hughes
12	Lady Isabel	3	L. M. de la Drome
11	Hanwell Glory	3	George Haigh
11	Madame Ferlat	3	W. Tunnington
11	Topaze Orientale	3	Creole
11	Ma Perfection	2	Henry Ellis
11	Globe d'Or	2	Thomas Lockie
11	J. Agate	2	Bonita
10	Frank Hammond	2	President Bevan
10	Louisa Giles	2	Toronga
10	Ialene	2	Madame de Verneuil
10	Chrysanthème Bruant	2	Ernest Cannell
9	Miss A. Hill	2	Perle Dauphinoise
9	R. Petfield	2	Mrs. N. Molyneux
9	Nellie Southam	1	Madame Darier
9	Mdlle. Lucie Faure	1	Jeanne d'Arc
9	Mrs. R. C. Kingston	1	Mr. James Murray
8	Empress of India	1	Mdlle. Lawrence Zede
8	Yvonne Desblanc	1	Mrs. G. Hughes
8	Bonnie Dundee	1	May Bell
8	John Lambert	1	Lord Rosebery
8	Ralph Hatton	1	Mrs. C. Crooks
7	Lord Leicester	1	Mrs. W. Harvey
6	Pearl Palace	1	The Egyptian
6	King of the Yellows	1	Ada Brass
6	Countess of Warwick	1	Mrs. Kearn
6	Miss Dorothy Foster	1	Mrs. D. B. Crane
6	Nellie Threlfall	1	John Doughty
6	Golden Madame Ferlat	1	Alfred Salter
6	Golden Empress	1	Fred Palmer
5	Princess of Wales	1	Col. Baden Powell
5	Mrs. W. Howe	1	Golden Queen of England
5	Queen of England	1	Mons. R. Bahuant
5	Miss Violet Foster	1	George Glenny
36		1	Mrs. Dixon
		1	Mrs. Robinson King
		1	Lord Coleridge
		1	Gem
		1	Miss Florence Southam
		1	Mrs. S. Owen
		1	Mrs. T. Wood
		1	White Bonaffon
		1	Watteau
		1	The Colonel
		1	Emilie Nonin
		1	Ada Owen
		1	Lord Wolseley
		1	Mr. E. Bennett
5	Mrs. C. W. Egan	98	—total number of varieties.
5	Major Bonaffon		
5	Matthew Russell		
5	Miss M. A. Haggas		
4	Mrs. W. Higgs		
4	Mrs. Gerald Williams		
4	King of Orange		
4	Mrs. J. Eadie		
4	General Symonds		
4	Miss A. Love		
4	Violet Tomlin		
4	C. B. Whitnall		

Notes on the Incurved Section.

In the selection of thirty-six incurved varieties ninety-eight names are given, which embraces a wide range of form, colour, and size. It will be noted that but twelve persons sent in returns, the remainder enclosing themselves that they did not cultivate this section sufficiently to warrant them sending in a selection.

As was to be expected, those two sterling English-raised varieties, C. H. Curtis and Duchess of Fife, still are at the head of the list, or, at least, they tie with Mrs. H. J. Jones and Lady Isabel for that position. No less than six compete for the second position, and it must be admitted that all but one, Topaze Orientale, are typical varieties of that section. Frank Hammond, in the next group, bids fair, in the near future, to be one of the most popular varieties we have. I was much impressed with blooms I saw of it at York. There seen, it possessed all the attributes of a typical incurved blossom.

The five members of the Queen family still struggle on to maintain a position, which I fear is a hopeless one—deterioration of constitution is the cause of this, certainly. As will be noted, the incurved section contains some few sorts of doubtful inclusion, General Symonds, President Bevan, Perle Dauphinoise, Mdle. Laurence Zede, and The Egyptian, all of which more properly belong to the incurving Japanese section. It will also be noticed that someone has still a weakness for those pretty little blooms which Mrs. Dixon and George Glenney produce, and which, for decoration, are useful even now, where such a wide range of form and colour can be selected. No doubt some names will be noted with mystery, but for all that they may be correct, and no doubt one or two are duplicates.

The present selection is a sufficient proof that exhibitors need not worry about the loss of their Queens, Princesses, Tecks, Alfreds, Novelties or their Hardings, all of which were regarded at one time as an absolute necessity in making up a stand of two dozen varieties. Amongst present day varieties there is ample material to choose from, irrespective of all those named. In some cultivators' hands, though some of the newer varieties cannot impress anyone with their quality or contour, which is a distinct proof that cultivation in an incurved Chrysanthemum is still a forcible point to study. The present selection contains a sprinkling of introductions not entirely from one country but a general conglomeration from all Chrysanthemum raising spheres.—EDWIN MOLYNEUX, V.M.H.

Names of Electors.

Mr. D. Nicoll, The Gardens, Rossie, Forgardenny, N.B.
Mr. T. Leadbetter, The Gardens, Tranby Croft, Hull.
Mr. D. Williams, The Gardens, Duncombe Park, Helmsley, Yorkshire.
Mr. G. Hall, The Gardens, Melchet Court, Romsey.
Mr. T. Lunt, The Gardens, Keir, Dunblane, N.B.
Mr. Drake, 44, Cathays Terrace, Cardiff.
Mr. A. Jefferies, The Gardens, Moor Hall, Harlow, Essex.
Mr. C. Beckett, Chilton Lodge Gardens, Hungerford.
Mr. E. Molyneux, Swanmore.
Mr. E. Beckett, Aldenham House Gardens, Elstree.
Mr. C. Penford, Leigh Park Gardens, Havant.
Mr. C. Crooks, The Gardens, Hadsor, Droitwich.
Mr. W. Mease, Downside Gardens, Leatherhead.
Mr. J. Folkard, Sand Hutton Gardens, York.
Mr. J. McPherson, The Gardens, Londesborough Park, Market Weighton, York.
Mr. G. J. Hunt, The Gardens, Ashted Park, Epsom.

Literature.

Mealy Bugs and "Scale" Insects.*

Years ago, when conversing with a grey-haired old gardener about the plant-gems of his "stoves," he touched upon the habits of "scales," the "brown scales" so common on Palms especially; and our old friend remarked, in a voice restrained with anxiety, that the young of these lowly creatures "ate up the bodies of their mothers," and he crushed the chitinous remains of what had undoubtedly been a live mother-scale once. The whole story of this "eating up" the bodies of the mothers is quite correct, and in this monograph of the order Mr. Newstead enlightens us on the whole life history of various genera and species. The title of Mr. Newstead's book is not of itself alluring to the average reader, but one has not read many pages before a deep interest attaches to the subject; and on and on we go, interpreting its lines, fresh facts regarding the insects appearing in every paragraph, each of significance and so very interesting.

Mr. Newstead has been a practical gardener, and knows just exactly how gardeners feel towards mealy bugs, brown scales, and their kind. We cannot hope to give a better idea of the nature of the work than by a selection of extracts from it. "Coccids,"

says the author, "are lovers of the sunshine, and seem to thrive and multiply best in warm-sheltered situations." Yet, "In spite of the apparent increase in certain individuals under favourable conditions, the vitality of certain exotic species, when exposed to frost, is most remarkable. . . . I have known 'mealy bugs' to survive the winter outdoors on the Ivy-clad wall of a hothouse, which, no doubt, afforded them material warmth and shelter, but could not have shielded them from the severe frosts to which they were exposed. Under these circumstances, they did not increase in numbers, and I have little doubt that in time they all succumbed to the exposure. . . . A peculiar habit of many Coccids is that they fix themselves along the midrib and larger nerve bundles of the leaves, where they would naturally get the greatest flow of sap. . . . Coccids never lay their eggs in exposed situations, as do aphides and other allied families of the Homoptera. In Diaspinæ they are laid beneath a shield-like covering, while in Lecanium the female protects them with her own body. . . . The 'mealy bugs' take less pains than any other British Coccids, merely enclosing the eggs in irregular aggregated patches of loose cottony material, which renders the plants they attack so very unsightly. . . . On hatching from the egg, the larvæ, in the majority of species, remain huddled together for a few days within the covering provided for them, whether it be the cottony or felted sac; or, as in Lecanium, the highly chitinated body of their dead parent. On escaping from their birthplace they are very active, mite-like creatures; but their period of activity is, in the majority of cases, of short duration, as they quickly settle down upon the food-plant, whether bark, leaf, or fruit, and immediately insert their long hair-like sucking apparatus into its tissues, and suck or pump up the juices of the plant. . . . I have never seen a male Coccid voluntarily take to flight. . . . In captivity a drop of moisture or a moist piece of glass almost immediately entangles them, and from which I have never seen them extricate themselves. Sunlight and dry weather would, therefore, seem essential to them." "The common 'brown scales,'" says Mr. Newstead, "are rarely, if ever, active after the larval moult, and never so after completing 'the second stage.'"

Fifteen pages are devoted to a notice of the life histories and metamorphoses of the Coccids, whence follows a chapter on the natural products of the order. The cochineal insect finds a reference, and a notice is also bestowed on the South African subterranean *Margarodes trimeri*, the outer pearly shells of which are extensively collected for the making of necklaces and curios. Locally, these shells are termed "ants' eggs," or "ground pearls." The "lac" producing Coccid (*Tachardia lacca*) has its life history traced, and the production of "honey-dew" by members of the order is also fully elucidated. This latter chapter is uncommonly interesting on account of the reference to the relations the ants assume with "mealy bugs," "American blight," and other honey-secreting members.

In a chapter on "Migration, Distribution and Acclimatisation," Mr. Newstead has occasion to devote attention to the San José Scale (*Aspidiotus perniciosus*), but of it he is convinced we need have no dread, as our cold, damp climate would be absolutely opposed to its acclimatisation. "The danger to English horticulturists from the introduction of injurious Coccids lies for the most part with our cultivated fruits and flowers under glass, where, in the absence of natural enemies, they thrive and multiply, causing us annoyance, disappointment, and loss. It is highly improbable that the Coccids from warmer countries will be able to establish themselves outdoors in the British Isles, but all species introduced from temperate regions should be regarded with suspicion, and dealt with accordingly."

Under "Natural Enemies of the Coccidæ," the author names the minute hymenopterous insects, an order, by the way, about which comparatively little is yet definitely known. The Coccinellidæ, to which the little lady-birds belong, are most useful in all countries; so is the lace-wing fly, but among birds only the Blue Titmouse (*Parus cæruleus*), (see page 76, *Journal of Horticulture*, January 23) the Long-tailed Titmouse (*P. caudata*), and the Jackdaw (*Corvus monedula*) are named. The offensive smell of most of the Coccids possibly accounts for their comparative immunity from birds. Micro-fungi, too, are only occasionally destructive to British Coccidæ. This class of fungi is mostly hurtful to the species under glass.

To those wishing to be initiated in collecting and preserving Coccidæ this monograph supplies the needful guidance. The author has also earned the gratitude of horticulturists and large fruit growers by his very complete and explicit directions as to how these pests can be battled with or prevented. As they are sucking insects it is only by affecting their respiration that they can be killed. Hydrocyanic gas, Paris green, and other mineral poisons, washes and emulsions are recommended, and full directions are appended for the preparation of these. In this country there is no organised system of prevention against the introduction of insect pests, which, to say the least of it, is a very unsatisfactory state of affairs. Mr. Newstead furnishes a list of ten species that have been introduced to this country within the last twelve years, and with two exceptions they all have thoroughly established themselves. The treatment of trees and

* Monograph of the Coccidæ of the British Isles. By Robert Newstead, Curator of the Grosvenor Museum, Chester. Vol. I. London: Printed for the Ray Society. Price 1 guinea. 1901.

plants on an extensive scale as practised in other countries is carefully described by the author. The concluding pages (of which there are 220) are devoted to describing the characters of species, and to classification. An admirable index, which also enlists synonyms, is furnished, together with thirty-four full-page plates, a number of which are finely coloured, and with the explanations that face them, are easy to understand. Mr. Newstead has done his work most thoroughly, and through the generosity of the Ray Society has produced an invaluable and most interesting work—one which we most highly commend.

The Formal Garden in England.*

The third edition of this comparatively well-known work has been lying on our desk here for a longer period than ought to have elapsed before this notice was penned. We are pleased to observe that the disagreeable preface to the second edition has been entirely omitted, so that we can now come to the book, read it, mark and learn from it, without having in mind the whole while that its object apparently is solely to extend architecture away into what ought to be the garden, and not an area of magnified courts or modified piazzas. Landscape gardening in these days is practised largely by men who appear to us not to be of that calibre that gave renown to the small army of reformers, as Wheatley, Bradley, Price, Knight, and others, towards the middle and end of the eighteenth century. Thus the men of education, of thought and purpose, like Mr. Blomfield and his confrères, seem to us to be gaining considerable influence by their literary productions on formal gardening. And Mr. Blomfield's "Formal Gardens in England" is by no means a compromise that endeavours to blend the better parts of what we must yet call landscape design with a larger amount of purely geometric formal plans of gardens. His book describes formal gardens, and these only. The illustrations are sufficient by themselves to show even a cursory reviewer what his ideas of garden design are. It makes us sad (not angry!) to think of being pent up within one's "own four walls," especially those of us who are so seldom privileged to breathe outside the four walls of our offices or studies. That would appear to be part of the design of the formal garden artist, i.e., to introduce as often as he conveniently can the four-walls scheme. The sum and substance of formal design appears to be, from the arguments adduced, (1) that it yields quietness and induces feelings of repose; (2), it represents art, as against the concealment of it, in the landscape gardening code; (3), it harmonises with the architectural features, which, of course, are presented wherever there is a house or mansion; and (4), while uniting these advantages it does not abolish the charm of flowers, shrubs, or trees.

A persistent argument of those of the "formal school" is that landscape gardening displays no fixed laws of design, and this apparently because the best landscape gardening methods obscure the appearance of the garden as "an artificial thing." Those who have studied Price's "Essays on the Picturesque" and Loudon's works on the anti-formal plan of laying-out gardens, know full well that there are very many strict laws to be applied. But we need not argue further, for Cui bono? There are two distinct sets of ideas represented on the question of garden designing, and while we are convinced the so-called landscape gardeners mostly love gardens as gardens, we are not certain that the aim of the "formal" designers is other than to extend the domain of their art—architecture—into a region which in centuries past they had the privilege to practise in. Mr. Blomfield's book is not expensive, and the arguments and principles of the formal garden are clearly explained in it. The first chapter is devoted to a discussion of the two methods of laying-out, that is, the two we have just been noticing, and other chapters follow on the history of formal designing (briefly given), on courts, terraces, mounts, parterres, arbours, galleries, groves, toniary art, &c. The whole is ably illustrated with apt figures of the subjects under consideration. Two hundred and fifty pages comprise the book, which is well printed in bold type on stout paper, with white binding, and gilt impressions for ornament. The white binding is very tasteful, but speedily gets soiled.

Trees: Their Date of Introduction.

From Brown's "Forester" we learn that the following dates are accepted for the introduction to Scottish estates of the trees named hereunder: Lime tree (Taymouth Castle), 1664; Silver and Spruce Firs (Inverary), 1682; Black Poplar (Hamilton), 1692; Horsechestnut (Posso), 1709; Weymouth Pine (Dunkeld), 1725; Larch (Dunkeld), 1741; English Elm (Dalmahoy), 1763; Norway Maple (Mountstewart), 1738; Cedar of Lebanon (Hoptoun), 1743. The last-named tree had been planted in the Edinburgh Botanic Garden, in 1683, and is named by Sutherland, the curator at that date.

* The Formal Garden in England: by Reginald Blomfield, M.A., F.S.A., with illustrations by F. Inigo Thomas. Macmillan & Co., Ltd., London, 1901; price 7s. 6d. net.



Jocular Horticulture.

I am afraid I had not in view periodical literature of the gardening kind when I mentioned the "levity" (perhaps not a very good expression) apparent in so much that is written now. It was rather the interweaving into book form a lot of material that dies with the reading; fine writing, maybe, but not worth reading twice, and devoid of legitimate gardening, though that is presented as the object of the writer.—B.

Things I Should Like to Know.

I have heard that in the days of old the men of Essex and of Kent were noted for their natural shrewdness; I therefore especially welcome the contribution of "Essex" on page 62 as coming from a reliable source. Let me also thank him for the light he has thrown across the path of "Ignoramus," who will welcome from "Essex," or anybody else, still further information on many other things he would still like to know. I am glad I was not far wrong in asserting that Cox's Orange Pippin holds the premier position in point of flavour. At this early stage, however, I find I have (for once) to turn informant, as the shrewd Southern man "wants to know where I saw Cox's selling at 3d. per lb, and Newtown Pippins making 6d. per lb." In a Midland town of forty thousand inhabitants, good friend, and the Newtowns are still selling at the same price. "Essex" is, however, wrong in thinking that the Cox's sold at 3d. per lb were a poor sample; they were a beautiful lot of even, crisp, well-coloured fruits, such as one might expect to get from the private gardens which, to a great extent, supply the shops in this district. I bought a few from one shop last night, and as the heap was getting low, asked the salesman if he had many more; he said No, as a London man had just bought up the rest of his stock at 17s. per bushel, and he could now see he has been selling too cheaply. And, indeed, it seems to me that many Midland growers do not know the market value of this fine Apple. Still, Mr. "Essex," I cannot agree with you that Cox's do not come into competition with Newtowns to any great extent, as in the Midlands the former variety can be kept in splendid condition till the end of January, if not gathered too early.

The suggestion of planting 100 acres of Cox's has, says "Essex," a little suspicion of the "New Year" or "Boston" about it. I should like to know if a little New Year's eagerness and Bostonianism would not be excellent elements to incorporate with British characteristics? Is no one likely to do it, "Essex"? Surely the planting of 100 acres of one variety of Apples is not a great undertaking for a rich country like England. You, no doubt, know better than I about the difficulty of obtaining the trees; but, after all, I daresay they could be found, and I am quite sure the land, if not in one break, the several breaks need not be far apart. Yes; fruit growers tell me that the climate of this "tight little island" does play pranks with fruit trees sometimes, but it is not likely to affect Cox's more than any other variety. And if the latter variety is profitable to grow on a small scale, surely it must be equally profitable on a large one. It is as well, if not better, to have a basket full of the very best eggs (or Apples) once in two years, as to have the basket half full of only moderately good ones each year.

Now, one word about those importations of Apples. They have not varied greatly during the last ten years, even when our crops are heavy the foreign supplies do not show much falling off. I should therefore like to ask "Essex" if this does not show that during the best of seasons England might profitably grow vastly larger quantities of good Apples, and why not grow the best variety, which, according to the showing of a "Man Who Knows," commands a splendid price in the markets? I have been told that in many districts in the South Cox's does not thrive. Here in the Midlands it succeeds splendidly. Within a few hundred yards of where I write are three gardens in which Cox's have borne fine crops during the last two years. The soil is a medium loam, neither very heavy or light, and not more than 18in in depth, with gravel and sand beneath, and there is plenty of soil of similar character in other districts. The hundred acres of suitable soil would not be difficult to find in the Midlands. I am quite ignorant about matters pertaining to company promoting, but it seems to me that a matter of this description is quite a simple one. It means so much capital, so much labour, a good guiding head for the practical work, and no big directors to draw fat salaries for doing little or nothing. Extravagance in the latter

respect has ruined hosts of companies sound in other respects. Yes; light on the matter is what we want, and we want it badly, "Essex." Switch on the electric current at full power, and let men from North, South, East, and West, tell us something we ought to know. I am just beginning to learn, though still an—IGNORAMUS.

Birds of the Forest.

The grand feeding ground of the Gold Crest is the Fir woods, and no prettier scene in bird-life is that of a Gold Crest suspended back downwards from the drooping branchlet of a Spruce Fir, searching for insect food. And, again, what can be more charming than its exquisite nest, suspending beneath a similar branchlet, composed, as it invariably is, of moss and lichens, interwoven with wool, and lined thickly with soft feathers? Its external form is nearly that of a globe, with a contracted opening at the top. The eggs vary in number from five to eight; they are almost globular, and smaller than those of any other British bird. Adverting to the comparative hardy nature of the Gold Crest, Gilbert White remarked that, "The feeble little Golden-crowned Wren, that shadow of a bird, braves the severest frosts, without availing himself of houses or villages, to which most of our winter birds crowd in distressful seasons, yet this keeps aloof in fields and woods—but perhaps this may be the reason why they may often perish, and why they are almost as rare as any bird we know." The Hon. and Rev. W. Herbert also remarks: "The Golden-crested Wren and the common Brown Wren are both impatient of cold, and, in confinement, the least frost is immediately fatal to them. In a wild state they keep themselves warm in the day, and at night they secrete themselves in places where the frost cannot reach them numbers, doubtless, perish in severe winters." Several instances are recorded in which large flocks, consisting of several hundreds of these birds, have been observed at once; these, it is supposed, must have migrated from higher latitudes, and not broken up into smaller parties after their arrival.—W.

Rotation of Crops.

This is a subject of very great importance to all gardeners, but it is most difficult to carry out on scientific lines in gardens where a great portion of the ground has to produce more than one crop in a year. It is also important from a labour-saving point of view, and a few of my own schemes in this direction, which comes of necessity, may be of some use to others without considering them in any other way. In the first place, I like to have crops that cannot be followed up with any catch-crop in the autumn months all together as much as possible, so that the ground may be cleared at one time, and got ready early for the next crop. Nothing can be put into the same ground after the latest Peas, or the main crops of Carrots, Beet, Parsnips, or Seakale. These crops all require to be grown on deeply dug ground. In my case the ground is bastard-trenched, digging the roughest part of the manure into the bottom spit. Perhaps the best of all following for these crops would be Potatoes. If the land is in good condition and manure scarce, a fair crop may be had without it. When cleared, throw it up into 2ft or 2ft 6in ridges, as suggested by your correspondent, "A. W. D.," on page 57. If labour is scarce, the Potatoes may be planted between the ridges (first drawing a hoe along to level it), and then fork the ridges down level. In the case of Sharpe's Victor and Ashleaf Potatoes, so soon as they can be got off the ground, it is filled up with Savoy and Coleworts, "Thousand-headed Kale," and other winter Greens, of which we never seem to get too much.

In the case of second early Potatoes, the following crop may be winter Spinach. A good width of this is generally useful, and when it is cleared off the following summer we plant the ground with Broccoli, putting the plants in with a bar, as in the case of planting after Strawberries. Brussels Sprouts in light, loose soils may very well be planted after the latest crops of Peas without digging further than to loosen the surface. I think Cabbage for spring use follow Onions better than Carrots. We like to have our main crop of Carrots in the ground as late as possible, and after lifting them we do not find our light land by any means very firm after the process. We like to have our early Cabbage planted out some time before September is out, and our Carrots remain in the ground till November. The Celery crop generally goes in after the latest winter Greens, "Thousand-headed," Scotch Kale, and Asparagus Kale, and Broccoli. It is best to bastard-trench, digging plenty of manure into the bottom spit, and but little in the trenches at the time of planting. The roots have thus a wider field of food supply, and will be less dependent on the waterpot than if the trenches were taken out on hard ground.—R. I.

Fallacies.

On page 57 notes are contributed about "Rotation in the Kitchen Garden," at the conclusion of which the initials given appear as "A. W. D." The writer must certainly be complimented upon two points, viz., his "levity of style," and singular "disregard for facts." It is certainly a long time since I have read an article having so many of the characteristics of an "Irish stew"—formed of doubtful constituents. The editorial footnote, fortunately, drew attention to one glaring error which any gardener ought to be well acquainted with. Says "A. W. D."—"The Potato disease, *Peronospora infestans*, sticks manfully by that tuber, and will touch no other vegetable." If "A. W. D." had seen what I saw a few years ago, viz., a splendid crop of Tomatoes in the open air entirely destroyed by disease which first started in Potatoes growing near, he could never have penned such an inaccuracy. Neither would he have required the Editorial correction in regard to the true name of the disease. A few lines above, in the same column, we are told by the studious "A. W. D." that "the Celery-fly swears by his favourite food, and will have no other." Why? I thought the merest tyro in gardening knew what such flies were, and are, as fond of the leaves of the white Marguerite as of Celery, and that they sometimes prey upon other species of Chrysanthemum too. When writers put pen to paper for the object of imparting knowledge, surely it is not too much to ask them to take a reasonable amount of trouble to make sure of their facts. This is why I am tempted to write this brief note, although I am only an—OLD READER.

Tomato, Coronation.

The above is the name Messrs. Webb, Wordsley, Stourbridge, have given to a new Tomato they are offering for the first time this year. I think the term is a most appropriate one. The word will be in everyone's mouth this season, and so should the Tomato. In culture I am quite familiar with all the superior Tomatoes introduced during the last quarter of a century, and I have found none to surpass the one under notice. When I first learned of its decidedly first-rate properties I wrote Messrs. Webb asking its name, but it had not one at that time; and it is now from their seed catalogue of 1902 that I learn of it, and I am glad that such a fine Tomato is to bear such a conspicuous name. It is a robust grower, and superabundantly prolific. In the latter respect I have not found one to surpass it. The fruits are of medium size, and produced in clusters of from eight to ten, and sometimes a dozen. They are slightly oval in shape, and a rich red in colour. The flesh is very firm, and the flavour, cooked or raw, excellent. Whether grown in pots or planted in beds it is no exaggeration to describe it as the most prolific of all Tomatoes, and I can hardly remember when I met with a new vegetable which has pleased me so highly. We all know that the demand for Tomatoes is ever on the increase. Their culture is now a great industry, and new, or alleged varieties are plentiful enough, but I venture to think, indeed assert, that Coronation has a distinct superiority in the points I have named, which will secure it a foremost place in British gardens many years after features which gave special pleasure at that function have ceased to be remembered.—AN OLD HAND.

Potato, Syon House Prolific.

It may be in the recollection of some of your readers that some few months ago I drew attention to the merits of this excellent Potato, while, just previously, Mr. A. Young, of Witley Court Gardens, Stourport, also spoke highly of the same, and in 1897 and 1898 correspondents in a contemporary testified in a similar manner, and predicting for it great popularity, as especially a garden Potato. Recently I had the opportunity of practically demonstrating its cooking quality by purchasing a few bags of it from a Tamworth market gardener, and was much gratified to find it superior in flavour to the Popular Up-to-Date, or even of a few other good varieties such as Sutton's Abundance, British Queen, The Bruce, and Imperator. The tubers of the variety in question are so similar to Up-to-Date in shape and size, but it is somewhat difficult to distinguish them when mixed.

As a disease resister, my Tamworth grower says that so far he entertains a good opinion of its power, having as yet never found an affected tuber since coming to grow it, whilst such as Up-to-Date were more or less affected. I may add that there is no trace of "earthiness" in its flavour. Regarding the "disease," I am informed that in the Bromsgrove district, in Worcestershire, nearly every sort of Potato is evidencing a considerable degree of the malady, and a variety new to me, the name of which I now forget, and which was cooked to-day, proved excellent in every respect, but several of the tubers, when cut across, exhibited in a marked degree traces of a disease differing from the original attack in its appearance, and permeating the whole of the tuber, in a spotted-like way, and hardly apparent in the skin, though it may develop increasingly at a later stage.—W. G.

Puzzles—Horticultural.

In his title, "Things I Should Like to Know," "Ignoramus" shows himself to be a man of very broad thoughts when "the hosts of things in this world he says rise up before him like a mountain," but the enormity of his sphere of thought evidently does not afford him a solution fitting to his inquisitiveness of mind. There are things which are quite everyday matters, such as, for instance, the purchase of American Apples by the British public at just twice the British value, which not only puzzles your correspondent, but a great many beside. The fact, however, remains, and who can say how long it is likely to remain? It seems monstrous that English people should be so eager to pay a double or even a greater value for fruits because they happen to be foreign.

That England can ever crush out the foreign fruit by meeting it by home grown produce seems at present a most unlikely "accident." What does happen is this: that the more we grow of any one kind of produce the cheaper it becomes, so much so, in fact, that growers declare it does not pay them a working profit. Fruit of all kinds comes now from so many sources, that there is with much of it a competition in the markets between home-grown and foreign. Glass-grown production is that most likely to rebut the foreigner, but there should be none, or but little reason why Apples of British growth should not make the American less profitable to them on this side of the "Pond."

When one surveys the great extent of orchard planting that is carried on in Kent, "The Garden of England," it must surely afford "Ignoramus" some thoughtful reflections as to the prospects of the future. It must not be overlooked that in the planting of Apple and Pear orchards much time and patience is required ere a full reward is paid the planter. There is, as your correspondent points out, "a precious lot of land growing nothing much," as applied to fruit, where the land is suitable, at least for growing something marketable, if not of the higher Kentish class of goods. What Mr. Molyneux has done, and is doing, at Swanmore could be imitated in other centres with, I should say, a prospect of a useful dividend in later years; but landowners, so many of them, are satisfied to receive their rents as a means of subsistence without "looking around" to see whether a better income could be made by an investment in a new departure.

Speaking for myself, I do not find a mountain rise up before me in the possibilities of converting land I look upon daily into more profitable pastures. The initial cost and maintenance suppress all such thrifty speculation when brought out into the light, the prospects do not pass the review day with smiling self-satisfaction, and so abeyance becomes the password rather than progress. If this is true of one, it is also true of many such cases; land will go on producing one crop, when it is quite competent of producing two. An instance of the profit of Apple growing occurs to me as I write, gained from a tenant farmer this last autumn. In his orchard are some good trees of serviceable Apples; one of them, bearing a fine crop of large fruit was admired at the time of gathering, and this admiration gleaned a pleasant remark from the owner to the effect that £2 10s. had been offered for the crop of this one tree, the purchaser gathering the fruit, and packing it for transit to some distant market. There were other trees, too, that realised equally satisfactory values, and this without a thought of cultivation given.

If county limited companies were formed on similar lines to that now so common in dairy farming, a stimulus would be at once set up. Apples and Pears and, indeed, all other fruits, could be despatched daily in their season to the "factory," there to be graded, packed, and despatched to the markets, and under proper method and management there should be no reason why, as in dairy butter, an enhanced price cannot be obtained. With encouragement such as this, a better class of fruit would soon be forthcoming, because growers would apply themselves to the betterment of the conditions under which it is grown. Pears at 8d. each the Journal says (page 33), were on sale in Covent Garden early in January, a time when there ought to be some very good, though not, perhaps such fine-looking Pears as the Californian Easter Beurrés obtainable from English growers. We hear much of Apples which is, of course, correct, as they are the most useful of the British winter fruits; but Pears are not much less desirable, and deserve an extension of culture, particularly of the later sorts. There are now some very excellent kinds of Pears available for winter consumption, which, if given good cultivation, would take a good position among the imported fruits for winter dessert. Without the aid of walls it can scarcely be expected that ordinary British samples can meet those from foreign lands in appearance, though quality should be, like as in the English Apple, beyond complaint.

Since writing the foregoing lines the Journal containing the critique by "Essex" on the same subject affords still more proof that in gardening there are things it is well to know. In his notes "Essex" says £1 per bushel was paid for average samples of Cox's Orange Pippin, which to the seller is very satisfactory, but this value must not be taken as representing that obtained every-

where. In the West nice samples of Cox's, Ribstons, and Blenheim were bought for 7s. 6d. per bushel, and even this sum was considered by the buyer not a bad price, which it is not, if you have a goodly quantity to dispose of. The past season's prices too, must not be taken to represent anything like an average, for in some districts Apples were very scarce, while a few places scattered here and there had good crops.

There is sound argument in the words of "Essex" where he says "We may rest contented that Cox's have been planted in thousands during the past decade, which will be felt in our markets, if they have not already done so." Its quality is too good to have been overlooked in planting largely of it. Mr. Bunyard's advice has long been that every gardener should plant largely of it—advice that no doubt has been acted upon for some years past. Every grower who has any experience of the Apple markets finds that poor fruit—poor in colour, size, and quality—do not pay him to dabble in; it is better given to the cattle at home. Profits may not accumulate in fruit growing so fast as in some other businesses, but it must not be taken too seriously that because "Essex" has not found the man that has made his fortune out of it, the chances are so remote of its possibility.

British subjects do not as a rule parade their profits, as is the custom of some other countries, but it would be idle to say that fruit growing on a large scale is devoid of a reasonable profit. Were it so, so many broad acres would not have been planted within the last decade or two. Fruit bottling is in its initial stage at present. What the prospects of this industry are likely to develop into remain to be proved. Certainly, if the foreigner can do such a large business in it, England ought to be up and doing, which, judging from the samples exhibited and comments that have already appeared in the horticultural press this winter, has already been seriously taken in hand, and that, too, with success. One fact seems clear from "Essex" remarks—that if English fruit growers cannot make hasty fortunes, American exporters cannot do so from British trade, especially in seasons when this country has a fair yield of its own to dispose of.—WILTS.

Cultivation of Sweet Corn.*

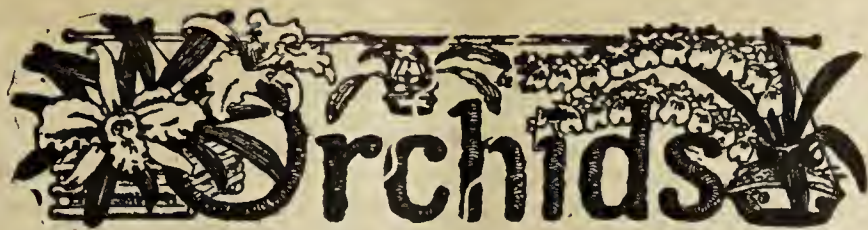
The cultivation of the Sugar Corn is well worthy of the gardener's attention, and to say it is a most delicious vegetable is not saying too much for it. It is not by any means a difficult thing to grow, neither does it require a great amount of attention. It likes heat, and should, therefore, be planted in a sunny situation—the sunnier the better—on a rich sandy loam, staked, and the soil kept moderately loose and open. The seed should be sown about the middle of April in gentle bottom heat, and, when the plants are 6in high, potted on, gradually hardened off, and planted out in June, 3ft apart each way. The common Indian Corn is edible, but the varieties known as the Sweet, or Sugar, are the best. The seed of the latter is wrinkled, while the former is smooth. Watering with weak liquid manure is beneficial given two or three times during the season. The cobs are boiled in their green state till soft, and brought to the table whole, and as fingers were made before forks, it is held by both hands and the corn nibbled off. Served with melted butter it is a tasty vegetable. It is a favourite dish in America, where it is cultivated to a very large extent, and much enjoyed by all classes. To see men, women, and children standing on the corner of a street in New York enjoying their corn cob is an everyday sight during the season.

There are, of course, numerous varieties of Sweet Corn. The best I think are the Early Cory, Early Crosby, Minnesota, and The Henderson; the latter is a very fine one, the ears being long and handsome, and the flavour A1. The ordinary Indian Corn, too, is a valuable food for cattle. Cut green, chopped up, and mixed with their hay it is much relished by them, especially good for milk cows, and it is said that the milk obtained from cows partly fed on Indian Corn in its green state is much richer than from those fed on the ordinary food, and as the plant grows from 6ft to 7ft, a great amount of green fodder is obtained which is very succulent. The summers of England during the past two years have been the very thing for the cultivation of the Indian Corn, and I understand it has done exceedingly well in the counties of Essex and Surrey.—H. KITLEY.

Doings at Brighton.

A special meeting of the members of the Brighton and Sussex Horticultural Society was held on Thursday evening, January 23, at the Imperial Hotel, Brighton, to consider the desirability or otherwise of continuing the summer show, which does not pay. Mr. T. Billing, one of the vice-presidents, was in the chair, and there was a large attendance. It was agreed to continue the summer show.

* Zea saccharata.

**Cypripedium × Mrs. W. Mostyn.**

At the Drill Hall, on Tuesday, January 14th, before the Orchid Committee of the Royal Horticultural Society, this superb novelty was presented by F. W. Wellesley, Esq. (gardener, Mr. J. Gilbert, Westfield, near Woking), and received the highest award, namely, a First Class Certificate. Undoubtedly this is one of the finest hybrid Cypripediums of late years, and combines a more varied display of pleasing and distinct colours than is shown by the great majority of the members of this genus. As will be seen on looking at the illustration on this page, the form is "smart" and very beautiful. The dorsal sepal is bold and large, being green at the base, and this colour gives place upwards on the body-face of the sepal to a rose-purple shade, very distinctive and well defined, the edge merging off to pure white. The middle of the sepal is very rich and deeply coloured. The forward curving petals are pale yellow, barred and spotted with purple, the lip being shaded with the same colour. The whole surface of sepals, petals, and lip is highly polished and glossy-like. Parentage: Calypso × *Leeanum* var.

Cattleya × Maroni.

This was raised by the French hybridist, Chas. Maron, and is one of the finest *Cattleya* hybrids yet produced. It comes from crossing *C. velutina* with the pollen of *C. aurea*. The petals are nankeen yellow, and the lip a most beautiful pale orange suffused with rose and deepening in colour at the throat. The lip is beautifully veined with crimson throughout. The plant is a vigorous grower, making two bulbs annually.—J. E. ROTHWELL (in "American Gardening").

The Week's Cultural Notes.

The dullest season of the year for Orchid flowers has now passed, and with the lengthening days the interest in the flowering house increases. I should

be sorry to damp the ardour of those who like to keep up a fine display of flowers, but I think I may say without any fear of contradiction that more Orchids are killed by over-flowering, or by carrying their flowers too long now, than at any other time of the year. We have passed the dullest period, and have not as yet reached the time of plenty, so every plant is made to carry its flowers as long as possible, often to its own detriment.

As an instance, perhaps a new plant of *Odontoglossum* that one has been watching for a year or two has flowered; it turns out to be a good form, worthy of the greatest care. But we are expecting a visit from a friend who is interested in Orchids, or a call from the nurseryman or his representative, and would like the house to look as gay as possible. We know the flowers are weakening the plant, and that the latter is already showing signs of exhaustion, perhaps by a slight shrivelling of the bulbs; but a day or two can make no difference, so we allow the large raceme to remain, drawing the very life out of the plant and diminishing its chances of future usefulness.

Well, we have only ourselves to blame, of course, but that is rather poor comfort when next season comes round and no

flowers are forthcoming. The cutting of Orchid flowers after a certain period has been described as unnatural. If the plants were growing wild, we are told, they would carry the flowers until the latter fade, and the plants would be none the worse. Possibly so, but the air of the flowering house is artificially dry in order to conserve the flowers as long as possible. In a state of Nature the flowers would not probably last nearly as long, insects, moisture, and wind making short work of them. The plants, too, would be in an atmosphere quite congenial to them, instead of exactly opposite to what they need.

This, then, must be my argument against leaving choice specimens to flower themselves to death. A plant may be overdried for weeks. It may be shrivelled up almost to vanishing point by a long journey by sea and land after collecting. But, given moisture and heat in plenty, it recovers itself; the innate vigour is still there, only waiting for these quickening conditions. On the other hand, if you allow the flowers to drain the tissues and suck the very nature out of the pseudo-bulbs and leaves, no amount of careful treatment afterwards will restore it. The hint is worth taking by all who have choice Orchids in flower—do not spoil their future usefulness for the sake of a few days' present display.—H. R. R.

Orchids at Home.

Writing in his interesting book, entitled "The Travels and Adventures of an Orchid Hunter," Mr. Albert Millican furnishes the following interesting notes: "On the top of one of the high mountains on the way near a village called Cachiri, near Bogota in Colombia, at a height of 10,000ft above the sea level, I passed on the side of the track thousands of *Masdevallias*, chiefly of the *Harryana* variety. On another hill, two days' journey further along, but much lower, the trees are hung to crowding with the dainty little *Oncidium cucullatum*. Any future novice Orchid hunter in search of *Odontoglossum Pescatorei*, will find it by leaving the town of Ocaña, passing across the magnificent plains called *La Savanna de la Cruz*, and entering the chain of the Andes on the western side. Here, amongst the matted, moss-grown vegetation, *Pescatorei* is growing side by side with *Odontoglossum triumphans*, while the creeping rhizomes of *Odontoglossum coronarium* cover the roots of the same trees. I have seen the curious *Anguloa Clowesi* and the pretty *Ada aurantiaca* here as well, while in

the cooler parts that choice little *Odontoglossum blandum* grows in profusion in a peculiar mist which reminds one of a continual Turkish bath. It is all very well to see this fastidious little Orchid in its natural beauty, but it is quite another thing to succeed in bringing it home to England alive. Many of the plants die before they leave the coast, many more before they pass the West Indies; a few reach the Azores, and fewer still arrive in England safely."

Cumulus Clouds.

The typical cumulus clouds—those great white masses in the air, suggesting masses of cotton from a picker piled up on a mill floor, and showing dazzling white against darker masses in the background, indicate that the clouds are forming around a central ascending column of warm air, and that local rains or thunderstorms will surely follow in a few hours. Cirro-cumulus clouds, which perhaps most resemble wool on a sheep's back, and incline to dispose themselves in wide bands across the sky, are distinctly fair weather clouds.

**Cypripedium × Mrs. W. Mostyn.**

NOTES & NOTICES

French Distinction for Mr. Harman Payne.

We learn with pleasure that, following the recent Congress of the Society of French Chrysanthemists, held at Bordeaux, the French Government has bestowed on Mr. Harman Payne, so well known throughout England, the Croix d'Officier du Mérite Agricole.

Gold Medal of the Fruiterers' Company.

On Thursday, January 23, the Fruiterers' Company of the City of London entertained Mr. John Wright, V.M.H., and on that occasion presented him with their Gold Medal in recognition of the invaluable services he has rendered to the cause of fruit culture throughout these Isles.

Weather in the North.

Up to the 24th the weather continued open and mild, the 22nd being particularly fine. In the early morning of the 25th a sudden change occurred, a slight snow-shower fell, and 6deg frost were registered. All the surrounding hills were whitened, and the low grounds were covered on Saturday morning by another fall. The frost increased to 10deg on Sunday, and 14deg on Monday; on the afternoon of the latter day there was every appearance of impending snow.—B. D., S. Perthshire.

Richard Dean Testimonial.

At the meeting of subscribers, held on the 14th inst., at the Royal Aquarium, Westminster, it was resolved to entertain Mr. Dean to dinner at the Royal Aquarium on the evening of Tuesday, February 4, at 7 p.m., and to present the testimonial there. This is to take the form of an address on vellum, and a cheque for, it is expected, £300. The committee would like as many subscribers as possible to be present. The dinner tickets are 5s. each. The names of all subscribers will be inscribed on the Address. In the illness of N. N. Sherwood, Esq., W. Marshall, Esq., will preside.

Yorkshire Gala.

The annual general meeting of the guarantors and life-members of the Grand Yorkshire Gala was held at the beginning of this week in Harker's Hotel, York. Alderman Sir C. Milward, as chairman; Alderman Border, as vice-chairman; Alderman Sir J. Sykes Rymer, as treasurer; Mr. C. W. Simmons, as secretary; Mr. Taylor, as auditor, were all re-elected. It was agreed to secure an entertainment stage; one estimate for this amounted to £200. On the motion of the chairman, seconded by Alderman Border, it was resolved to send votes of condolence to the families of Mr. Cypher, Mr. Jackson, and Mr. Brock, and the proceedings terminated.

Memorial of the Late Sir Edwin Saunders, Kt.

I have to inform you that the executive committee of the National Chrysanthemum Society have framed a scheme for commemorating the services to the Society rendered by the late President, Sir Edwin Saunders. The committee solicits the favour of a contribution to the memorial fund now being raised. 1. That a subscription list be opened for the purpose of offering for competition annually at the November Exhibition, the large Gold Medal of the Society, such Medal to be known as "The Sir Edwin Saunders Memorial Gold Medal." To be awarded to some competitive exhibit of the highest order of merit, but not to the same subject two years in succession. 2. That the first "Sir Edwin Saunders Memorial Gold Medal" be offered for competition on November 4 next, in the class for a floral display of Chrysanthemums, arranged on the fountains, as an additional award to the first prize in that class. 3. That an account be opened at the London and County Bank, Ealing, to be known as "The Sir Edwin Saunders Memorial Fund." The sum of £4 9s. has been so far subscribed. In order to enable as many as possible of the members to join in establishing such a memorial, the smallest sums will be gratefully received by—RICHARD DEAN, V.M.H., Secretary.

Sunday Flower Shows.

Of six exhibitions to be held by the Massachusetts Horticultural Society (U.S.A.) during 1902, four are continued on Sundays, remaining open till 10 p.m. on that day.

Sweet Pea Show.

It is announced that the next exhibition of the National Sweet Pea Society will be held in the Royal Aquarium, Westminster, on July 15 and 16, 1902. Schedules will be obtainable later; meanwhile order Sweet Pea seeds!

Appointments.

Mr. J. Castle, late of Lea Castle and King's Wood, Enfield, as gardener to Wright Wilson, Esq., Cottesbrook House, Acock's Green, near Birmingham. * * Mr. F. Snell, for over five years foreman at Astle Hall, Chelford, as head gardener to J. Baskervyle-Glegg, Esq., Wistaston Hall, Nantwich, Cheshire.

Trade Notes.

Messrs. Horne and Sons, Cliffe, near Rochester, Kent, have purchased the entire stock of the new dessert Apple so much admired at the last Crystal Palace Fruit Show, called Houblon, from Mr. C. Ross, Welford Park Gardens, Newbury, Berkshire. This is the same cross as the famous Charles Ross Apple. We may say it is from a pip out of the same fruit, but takes more of the character of one of its parents, i.e., Cox's Orange. It gained the first prize at the Crystal Palace Fruit Show on October 10 last. The same dish was shown at the Royal Horticultural Society's meeting, December 17, when it gained an Award of Merit. Messrs. Horne and Sons inform us they will put it in commerce at once, and intend to offer a very limited number for next November.

Proposed Federated Fruit Growers' Association.

Mr. W. Idiens writes from the London Chamber of Commerce, Eastcheap, London, E.C.:—"With a view to placing the great fruit-growing industries in a stronger position to attain their objects, and to secure for them and the nation the fullest measure of advantages to be derived from an efficient organisation by the federation of all the fruit-growing associations in the country, the Council of the Royal Horticultural Society have been approached, and the Rev. W. Wilks, M.A., secretary of the society, writes me under date 17th inst. that the matter has been considered by the Council and the subject adjourned till last Tuesday, the 28th inst., when they hoped to be supplied with the under-mentioned detailed information:—1. The number of such associations in England and Wales. 2. Their names. 3. Number of members of each. 4. Names of chief officers. 5. Whether any of them at present have an official or recognised organ in the Press: if so, what is it? Mr. Idiens asks to be furnished with the necessary particulars.

National Chrysanthemum Society.

The annual general meeting of the members of the above society will take place at Carr's Restaurant, 265, Strand, W.C., on Monday, February 3 next, at seven o'clock in the evening. Sir Albert K. Rollit, M.P., president, in the chair. Agenda:—To receive the committee's annual report and balance sheet; to elect a president, vice-presidents, officers, and one-third of the committee, for the year ensuing; and to transact such business as pertains to the annual general meeting. Proposed additions to rules: Rule III. Additions by Mr. R. Dean. After "the management of the society shall be vested in the officers of the society, viz., a president, vice-presidents, treasurer, chairman, and vice-chairman of the executive committee," add "general secretary and"; also line six after "the president, treasurer, chairman, vice-chairman," add "general secretary." Addition proposed by Mr. J. McKerchar and Mr. J. T. Simpson. Rule XIV. Schedule Revision Committee.—A sub-committee of the executive committee, consisting of nine members with the officers ex-officio, shall be appointed at the first meeting of the executive committee held after the annual general meeting, to revise the schedule of prizes and nominate judges, and report the same to the executive committee for approval. To add the following clause: "The officers of the society and the elected members of the committee are disqualified for nomination or election as judges." Attendance is particularly requested.—RICHARD DEAN, V.M.H., General Secretary.

Landscape Gardening.*

(Concluded from page 53).

Mr. Miller's Work.

Whilst going on with the greater landscape work already described, Brown did not appear to have been called upon to do anything to the gardens. These were taken in hand in 1861 by William, second Earl of Craven, under whom I served, and I had the honour of designing and conducting the work of those noble gardens, represented on these plans before you. The work of formation was continued with more or less spirit by successive noble lords, but I might perhaps be allowed here to put on record that in the formation of these gardens I received great and kindly encouragement from the above-mentioned noble lord, and also from Evelyn, Countess of Craven. Most of the work represented on these plans have been carried out, and that which was left undone when I came away I have filled in, which may or may not be carried out in the near or distant future; but even if nothing more is done there is enough to require some keeping. A very kind, complimentary, and encouraging incident occurred to me during the time I served Earl William, which perhaps you will allow me to record here. We had about finished the erection of the extensive glass structures, which were in those days considered an acknowledged success, and were ready to begin the formation of the new pleasure grounds. Besides the old grounds there was much new to be added and, of course, treated. Lord Craven one day, on arriving from town, came to me and said "he had intended to have employed a landscape gardener to do the new work, but from what I have seen of you I am satisfied we can do the work ourselves. You can do it, and, Miller, I make you my head gardener over all my other places as well as at Combe." Needless to say, I returned my best and most grateful thanks. Unfortunately for me, this good and truly noble man passed away after serving him five years, whilst we were in the midst of those, to him and to me, most interesting works; but he lived to see much done and the fruit houses in full swing with immense crops of Grapes, Peaches, Pines, &c., and he never failed to let me feel his appreciation of the same and of my services generally.

Two years before I left Combe I was asked to provide a design for a parterre flower garden, the ground for which I had prepared years before. It occurred to me that I could not obtain much credit by merely cutting out sundry shapes, such as oblongs, squares, angles, ovals, half-moons, and the like, and planting them in heavy masses, or forming upon them something of the usual carpet-bed designs. Instead of doing that I produced a design which is cut out on the grass—a copy of the plan is there before you. It is free and easy, the planting of which is simplicity itself, and the effect, as seen from the windows of the house, is one not soon to be forgotten. This plan was approved of and appreciated by the present Lord and Lady Craven. It is there still for anything I know to the contrary. Objection might perhaps be made to the difficulty of laying down such intricate scroll work, but the difficulty is more imaginary than real. The design is, of course, in the first place wrought out on a sheet of paper on a drawing-board, and to a scale, with all the dimensions carefully marked thereon; this done, the work of transformation is easily effected. To anyone fond of this sort of thing, the work of laying out and forming beds is exceedingly interesting.

Last year, at short notice, I was called upon to prepare designs for the laying out of a park and gardens belonging to a French château. These designs were exhibited in the Paris Exposition of 1900. On the smaller plan the scroll tracery is freely introduced on the parterres around the château, but in a far more extensive and elaborate style than that of Combe Abbey. Probably it may be considered that these designs are far too intricate to be practical, but it may be remembered that the design in its entirety need only be carried out as far as anyone wishing to have such a design may feel inclined to go; but I freely acknowledge that whilst engaged on this very seductive work of design I had great difficulty in withholding my pencil from running away. But it is some encouragement to know that this kind of design is finding favour.

* A lecture delivered by Mr. WILLIAM MILLER, F.R.H.S., landscape gardener and nurseryman, Berkswell, before the Birmingham and Midland Counties Gardeners' Mutual Improvement Association, November 4th, 1901.

On the larger plan belonging to the château there is a river, and also a very nice piece of water. The river is allowed to flow on in its natural course, and the lake is at one end provided with a small feed or inlet, and at the other an outlet which again falls into the river at a lower level. Water is only let into the lake when the water in the stream is clear, thus avoiding the mistake already alluded to at Combe, and most probably also at many other places. To be thoroughly enjoyable, the waters of an ornamental piece of water should always be kept in a perfect state of hygiene—in other words, pure, sweet, and limpid. A valley with a river quietly meandering through it, with some greenery judiciously planted along its banks is a thousand times more preferable to that of a dirty, neglected pool.

In conclusion, will you allow me to thank you for giving me so patient a hearing whilst I was wading through, I am afraid, my rather tedious paper. I wish also, Mr. Chairman, to make a few complimentary remarks upon the Birmingham and Midland Counties Mutual Improvement Association, the primary object of which I believe is to bring together as many gardeners as it is possible to do; to hear papers read by members, and also I believe by friends who may kindly volunteer to read or give an extempore lecture on some horticultural or landscape subject. The after debate or critique on these lectures is intended to, and often does, elicit much valuable practical information. These meetings also tend in great measure to stimulate members—more especially the younger ones—to search after more knowledge of their profession.

There is in these bookcases an excellent library belonging to the association, which I understand are lent out to members, and as to reading, if members desire more reading than is to be found in their own library, they will no doubt be able to find it elsewhere in Birmingham. There is an old and I believe a generally acknowledged maxim, which has a bearing on almost everything, whether in love, literature, or in commerce, which has success for its aim—namely, "That where there is a will, there is a way." In my lecture this evening you would notice that, in conclusion thereof, I made mention of several men who in the various branches of horticulture and of landscape gardening, have made their names famous in history for all times. For the impetus they have given to the profession generally, we are now enjoying the broader benefits; and as with poets, sculptors, painters, &c., of the early schools, so with us, we are doing our best to either copy, imitate, or amend the work of those great landscape masters who have passed away, and whose shades may now be sitting on the top of the great Horticultural Tree, smoking their calumet of peace, not hunting wild beasts, like the North-American Red Indians, but amusing themselves, for anything we know to the contrary, by carrying out magnificent horticultural and landscape conceptions in those heavenly regions, where the sun never sets and where the "bee" banquets on through a whole year of flowers.

These grand successes seem by the law of Nature to be reserved for the favoured few, not only in gardening, but also in every branch of any other profession. Therefore we must steadily keep on, for none of us know what good fortune may yet be in store for us, to wake up some morning and find ourselves famous.

'Tis not in mortals to command success,
But we'll do more, Sempronius, we'll deserve it.

And although we may not all be able to climb quite to the top of the tree, but by plodding and industrious perseverance, we will do our best to deserve a comfortable nest amongst the higher branches thereof. To know how to wait is the great secret of success, and I believe it is also said that the best way to success is never to lose an opportunity.—W. MILLER, Berkswell, near Coventry, Nov. 4, 1901.

The Flora of Hampstead.

Mr. James E. Whiting has reprinted in separate form his interesting "Notes on the Flora of Hampstead," which appeared in the "Hampstead Annual." Although the list of flowering plants—resulting principally from the draining of the Heath and various other reasons—has been considerably diminished during the last few years, Hampstead is, as Mr. Whiting says, probably richer in plant life than any other district so near London. The "Notes" certainly show this, and readers will be surprised at the number of wild flowers still to be met with there. We are glad to note that Mr. Whiting thinks it hardly likely, protected as the Heath now is, that its flora will be further reduced in the future.

Apple Trees at Uffculme.

When on a visit, one day in September last, to Uffculme, the extensive and picturesque suburban residence of Mrs. Richard Cadbury, Kings Heath, Birmingham I was particularly impressed with fine crops of Apples produced by the numerous well-managed pyramidal, bush, and espalier trained trees there, and urged Mr. G. Menzies, the courteous head-gardener, to secure photographs of a few of the more prominent of them for reproduction in the *Journal*, resulting, however, in the production of only two pictures suitable for the purpose.

The three lengths of espaliers shown by the illustration on page 105 consist wholly of Lord Suffield Apple, and Mr. Menzies informs me that from each length of espalier the weight of fruit last autumn amounted to about 100lb. The trees were planted by him about ten years ago, and a good crop of fruit has been produced every year since first planted, and, which Mr. Menzies attributes chiefly to the late flowering proclivity of Lord Suffield variety, thus escaping the late frosts.

It should be stated that each length of espalier under notice is 25yds long and 5ft high. They were each furnished with four young trees, and when the two centre ones had filled their allotted space the trees on either end were gradually cut back to allow of extension of the former. Obviously the system commends itself to special notice to intending planters. Regarding the bush and pyramidal forms, the major portion of the Apples at Uffculme are allowed an open and free growth of the branches, and due attention being observed with regard to summer or early autumn removal of the superfluous young growths, free access of sun and air is thereby secured, both to the colouration of the fruit and the maturation of the young wood, also considerably lessening any required winter pruning.—W. G.

Prunings.

Apropos of "Smoak" (p. 507, last vol. quoted from "H. C. M." in the "St. James's Gazette"), it was reported in a daily paper that Sir W. Thiselton-Dyer, the director of Kew, had deduced from experimental observation made during a London fog that in a week six tons of solid matter were deposited on a square mile, including not only soot, but a variety of "tarry hydrocarbons," highly injurious to animal and vegetable life. This should show something for the pluck and perseverance of our great nurserymen, who are able to carry on their extensive business under such a foul cloak of London's "smoak." One may indeed wonder, like those who see a dog dancing on its hind legs, not only how it is done, but that it is done at all. However, the age is marvellously progressive, and although it may require a prophetic vision of abnormal power to see a smokeless future for London, who shall say it is impossible? What one would like to see now, and the immediate present is our concern, is more attention paid to the furnace flues of private gardens. One good chimney shaft is worth half a dozen small ones, yet how often does one see a number of small chimneys dotted through the glass department of some great garden with all the disadvantages of waste, dirt, and deficient draught. An ugly factory chimney would never be tolerated, some will say. Certainly not; but make it an ornamental one, and, apart from that, we can always have what Emerson calls the beauty of purpose.

"No flowers." The American note of an Orchid wreath 6ft wide (p. 517, last vol.), comprising 1,000 Orchid blooms, is a sample of the dimensions to which the memento mori has attained. Obituary notices in which "no flowers" is included are becoming more common, showing clearly that the one-time modest and appropriate tribute has grown into an incubus that many would fain be rid of. So much is this the case that some would endorse the opinion of an old gardener, who was kept on the tenterhooks of forcing and retarding for months in anticipation of a sad event, that the custom was "an unmitigated nuisance." He, like many more of us gardeners, was a loyal servant, with profound respect for the family he served, and genuine sympathy with them in their hour of trial, yet the uncertainty of That, which comes like a thief in the night, led him, in spite of his loyalty, into expressions which, under other

circumstances, would have been ludicrous. That this phase of the flower traffic is good for trade goes without saying, but few will dispute that the sudden call is often a serious tax upon the resources of private gardens. It is really that fine spirit of loyalty which not only prompts a man to do his utmost when the call comes, but which, when season prevails against him, brings a feeling of relief when the edict goes forth, "No flowers."

The diffidence of the 30,000 towards the Gardeners' Royal Benevolent Institution (see page 26) tells its tale in mournful numbers. Don't cavil at the court. The fact that a few do support it is admitted, but the chief fact remains, and "darna be disputed," that these are so few and far between (see list of names in the annual report), as to warrant the assumption that the British gardener practically ignores benevolence so far as the G.R.B.I. is concerned; and where that is concerned he, surely, is concerned. Appeal after appeal has been made, year in and year out; prayerfully, powerfully, pitifully have gardeners been appealed to on its behalf—on their own behalf, but they will have none of it—until such time as they, some of them, seek to reap where they have not sown. It is an old, old tale—an old lesson oft repeated, never learned. Is it thoughtlessness, heartlessness, or indifference? Charitably one would like to suppose it is the former, but in knowing men who have been thinking about it for years, and are thinking about it still, nothing more, then can we only reason from what we know and attribute the nude results to a callous indifference. "Thinking about it!" A fig for such thoughts.

With highly polished pen "Ignoramus" probes the great Apple question on page 40. He ought to get to the bottom of it, if it is fathomable, which is doubtful. There are some curious conundrums in the gardening world, but there is an irresistible charm about his letter that, in spite of having just tackled one, viz., why any gardener worthy of being called such is not a member of the G.R.B.I., and given it up, one is lured on to ask our Apple appraiser is he as ignorant as he would have us believe? "Ignoramus" would like to know why the British public will pay sixpence per pound for Newtowns when they can get good Cox's for threepence? In answer to that, where is the British public such an ———, what you please, as to do that? In our odorous city some 250,000 of the British public never get the chance, and the only decent Apples to be had are Newtowns, at eighteenpence the dozen. However, it is feared this cross-questioning *sans* answers won't lead to mutual enlightenment. "Ignoramus" guesses "there would be fewer foreign Apples in England to-day if a British Apple growing company" had been promoted. Guess again, "Ignoramus," at what the present market value of the company's shares would be? Also, whether any gardeners would have helped the company's promotion by taking preference, ordinary or deferred shares at par, or wisely have waited till the latter were to be had for a nimble ninepence?

"Fish guano, superphosphate, sulphate of potash, and sulphate of ammonia," according to directions, is "H. D.'s" prescription on page 61 for concocting a Vine stimulant, and, doubtless, in his capable hands it is simple, safe, and satisfactory, and very good victuals for the Vine. The getting and blending of these ingredients, however, may not be expedient with all who would infuse fresh vitality into their Grape bearers, young or old, and to such Thomson's Vine manure will be found a boon and a blessing equalled by few of the concentrated fertilisers, excelled by none.

Under the little pictorial heading on page 62 appears "Another B.'s" protest against "Jocular Horticulture." The two "B.'s," evidently do not care to gather honey from flowers of speech. Be that as it may, there is a good point in the protest, and other old-world readers have noticed the "smart," new-world style pretty strongly flavouring some would-be up-to-date gardening papers. Yet these remarks do not apply to "our *Journal*," and, doubtless, the sternest stickler for technical instruction pure and simple will scarcely object to its being made as bright and readable as is consistent with good taste, and the main object, by the inclusion of lighter matter to point a moral or adorn a tale. A little

seasoning oft improves plain food, high spicing may spoil it. Gardeners, as writers, rarely err, it is inferred, on the jocular side; for, tell it not in Gath, their papers are, sometimes, like a prosy sermon, sound in doctrine, but depressing as a Scotch mist.

The Niveus Chrysanthemum again? (page 60). How circumstances (or is it methods of culture?) alter cases. To-day, January 24, we are cutting this and the variety W. H. Lincoln, although it is but fair to add finis

value and interest. "Go mad in it," hence anyone prone to punning can quickly transform their Orchid structure into a madhouse. But there is method in the madness in spite of the havoc it will make by running "amuck" midst the orthodox lines of Orchidology.

Ever and anon "Wandering Willie" unpacks his plethoric poke, and from "gaddings" galore replenishes it with the good things of gardening life. Does anyone want a new Dahlia? then, forthwith (page 85) out comes Charles



Espalier-trained Apple, variety Lord Suffield. (See note on Apples, page 104.)

for this season to both varieties. "An old Contributor" says: "If I dare presume to offer 'Saynor' a little advice." Both "dare" and do, A. O. C. Your advice and experience is both timely and eminently useful, and if imitation is the sincerest form of flattery, then mutual imitation is the pleno form of it. What shall we reason but from what we know; or how add to our knowledge without interchange of thought and practice!

Lunacy in Orchids! "Cattleyas simply go mad in it." That's leaf mould; about which "H. R. R.," on page 75, has a good deal to say, and says it very much to the point. Of all the valuable papers by this expert this one is of especial

Woodbridge with a gold medal for his credentials. Are any floral gems required for setting in the up-to-date herbaceous border? Search the wanderer's gatherings from "Here awa' and there awa!" Would some smart junior confute and confuse his much "worried" old Head with modern nomenclature, then that boy can tell his master, on the best authority, his Crotons are Crotons no longer, but Codiaëums, and that if he still persists in calling a pampas plume Gynierium he knows nothing about it, for it is now a Cortaderia. Alas! that this should be so, for unless it is of vital importance to change the time-honoured name, it is what our "smart cousins" would call "pure cussedness" to do so. and that is what it seems to—SAYNOR.

Roses for Autumn Blooms.*

(Concluded from page 87.)

I propose now to make a few remarks on the general cultivation of the particular classes of Roses specially valuable for their autumn-flowering qualities, and I shall then submit the names of some of the best varieties of different habits of growth and of various shades of colour. The Chinese Roses of all kinds, the dwarf-growing Tea-scented Roses, and such of the Hybrid Teas as approximate in nature and habit to the dwarf Teas, thrive best in moderately light soils. Light loam suits them well, and they will flourish even in peaty soil. It must be borne in mind that they are susceptible to severe frost, and when such appears to be imminent it is well to draw some of the surrounding soil towards the collar of the plant, so as to keep its heart uninjured. It is also well to place pieces of cut evergreen or other litter loosely among the branches of the plants. Severe pruning never has the effect of destroying the flowering of these classes (although, of course, the larger the plants can be grown the finer will be their effect in the garden), so that no hesitation need be felt in removing in spring any wood that appears to have been injured by frost or moisture during winter. There should be no stint of nourishment in the soil, as the strain on the plants in the case of varieties so continually growing and flowering is very great.

The beds or borders should be mulched every November with rich manure, which may be turned in with the soil in spring. In order to develop and improve the autumn crop of flowers (although the greatest success in this respect will always depend largely upon the choice of the most suitable varieties), something may be done to assist Nature by attention to the plants after the first flowering is finished in July. A period of rest is highly beneficial, indeed necessary, after which a little summer pruning and thinning is advisable, and the pinching back of any gross shoots as they appear will tend to equalise the growth and strength of the remainder of the plant, with corresponding advantage to the coming crop of flowers. Especial attention should be given to any point that will assist the second growth of the plants when it commences, as it is upon the young shoots that the flowers are produced. Keeping the ground well hoed, and giving the plants occasional waterings with manure water if the weather is dry from the middle to the end of August, will be of assistance to them, and will improve the quality of the autumn flowers.

The system of culture for the Climbing Teas and the Noisette Roses is similar to that recommended for the Chinese and Dwarf Teas, excepting that greater care should be taken in the protection of the wood in winter, and pruning in spring should consist in leaving the best of the strong shoots of the previous year as long as possible, as these produce the best flowers. The Hybrid Perpetuals, the Bourbons, and the Rugosa Roses will succeed in a stronger soil, and, being by nature hardier and better able to resist frost, they will require little attention in winter, although, should the weather be very severe, some slight protection may be serviceable in the case of the two former groups. The pruning in spring will be at the option of the cultivator, according to whether a large number of moderately sized flowers or a smaller quantity of larger ones are desired for the first crop—long-pruning securing the former and close-pruning the latter result. The summer treatment for the improvement of the autumn flowers will be as recommended for the other classes. Mulching with rich manure in early winter is very desirable. The dwarf Polyantha Roses require the same treatment as the Chinese, but as they are generally used for edgings, or other positions where a dwarf habit is desired, pruning should be close. The best varieties of this group are such free autumnal bloomers that they need no special care or attention for the development of the second crop of flowers.

Coming now to an enumeration of the best varieties of Roses of different classes for autumn blooming, I think the most serviceable way of dealing with this part of my subject will be to group them according to their habits of growth, specifying in each group the best varieties of each shade of colour. I would here take the opportunity of strongly advocating, whenever possible, the system of planting Roses in beds or masses—small or large, according to the space avail-

able—of a single variety rather than mixing a number of varieties in one bed. Although a Rose under any circumstances is an object of beauty, and it is rare to find an unpleasing association of colour in the Rose garden, by the system of mixed planting the different habits of growth of the different varieties are apt to interfere with the general effect, and when once the bolder system of planting masses of one variety has been tried, the superiority will be admitted without question. It is also desirable, when possible, to lay out a Rose garden on grass, and a background of evergreen or other foliage adds greatly to the general effect. Where Roses in autumn are especially desired, dwarf plants will predominate in the Rose garden, but standards may be used in special positions, and the stronger growing varieties of autumnals may be planted as single specimens to form pillars or large bushes, or they may be massed in the centres of large beds. For our purpose the different varieties of Roses seem to fall naturally into four groups, namely:

1. Dwarf-growing ones for low masses or for edging;
2. Varieties of moderate growth;
3. Varieties of vigorous growth;
4. Varieties of semi-climbing or climbing habit.

It will be understood that the habits of growth and grouping of colours are approximate only; soil and locality will affect the former, whilst colours, especially in the Tea and Hybrid Tea sections, are often difficult to classify; the autumn shades are also often deeper than the colours of the same plants in summer. I think, however, the following grouping will be generally found correct:

Commencing with dwarf-growing varieties suitable for low masses or for edgings to beds, the Polyantha varieties—Anne Marie de Montravel (white), Eugénie Lamesch (coppery yellow), Gloire des Polyantha (bright rose), Léonie Lamesch (coppery red), Mignonette (pink), and Perle des Rouges (crimson) are excellent. Other good ones for this purpose are the varieties of the crimson Chinese Roses, especially Cramoisie Supérieure, Eugène Beauharnais, and Fabvier. The Chinese Roses White Pet and Red Pet are also suitable. The miniature China or Lawrenciana Roses are a little delicate, but are excellent for the purpose where they will thrive. Coming next to the moderate-growing ones, we have in the Chinese, Tea-scented, and Hybrid Tea-scented sections a wealth of varieties of the greatest excellence for autumn-blooming, and it is scarcely possible to do them justice within the limits of this paper. I shall therefore mention only some of the very best. Aurore, Madame Eugène Résal, and Madame Laurette Messimy are a trio of Chinese Roses producing flowers of almost indescribable tints of pink and rose-colour mingled with shades of yellow and copper, while the peerless Queen Mab, with its soft rosy-apricot blossoms, is one of the gems of its class. Other valuable Chinese Roses are the Common Pink, known also as the Monthly Rose, from its persistent habit of flowering; Ducher (white); Duke of York (variable red and white flowers always beautiful; Irene Watts (salmon-pink); Jean Bach Sisley (silvery rose); and Maria Sage (full pink). To these may be added the Bourbon varieties Armosa, with its bright pink blossoms, and Mrs. Bosanquet (white), and the Tea Rose, Princesse de Sagan (deep velvety crimson), all three of which have many of the characteristics of the Chinese Roses. The Polyantha variety, Perle d'Or (golden buff), and the Bourbon Souvenir de Malmaison, with its blush flowers, are also good.

Notes on Pines.

Fruiting Plants and Starters.

The plants started at the new year will now be throwing up fruit, and should have a mean temperature of 70deg, varying it 5deg according to the weather, admitting air at 80deg with sunshine, but not lowering the temperature, allowing it to rise to 85deg, closing between that and 80deg, and if it rise somewhat after closing it will be advantageous rather than otherwise. The plants recently started for fruiting will, if in good condition at the roots, produce strong suckers. When the suckers are large enough to handle, all except one to each plant must have the growth checked by taking out the centres.

Successional Plants.

To supplement the autumn-potted plants, select others which have been wintered in 7in or 8in pots, choosing the most vigorous. Those remaining may be reserved until the general spring potting, when they can be shaken out and treated similarly to suckers. Good fibrous loam, with the turf well reduced, placed under cover to become dried, is a suitable compost. Drain the

* A paper read before the Fellows of the Royal Horticultural Society by Mr. Arthur William Paul (Messrs. Wm. Paul & Son), September 24, 1901. Printed in vol. xxvi, parts 2 and 3.

pots well, dust soot or dry wood ashes over the crocks to exclude worms, and ram the soil firmly round the plants, keeping them well down in the pots to admit of copious supplies of water being given when necessary. Ten-inch pots are suitable for Queens, and 11in or 12in for those of more robust growth. A temperature of 60deg to 65deg will be sufficient for these plants, also those potted last autumn, and about 85deg bottom heat. Plants in beds about to be started into fruit must not have the heat at the base of the pots over 90deg or 95deg, or their roots will be injured. If sufficient fruit be started to meet the requirements, late successional plants that have not been subjected to a high temperature may be advanced slowly, those with autumn rooted suckers requiring careful watering, especially where the heat at the roots is supplied by fermenting materials.—PRACTICE.

Gadding and Gathering.

"HERE AWA', THERE AWA'."

One can name five fairly well-defined "sections" of Primulas as grown at Messrs. Sutton and Sons' nursery, on the London Road, at Reading, in Berkshire. These five sections comprise: (1), the Giant-flowered; (2), the lesser-flowered; (3), the doubles; (4), the Speckled and Carnation-striped; and (lastly), the stellate or Star Primulas. No. 1 clearly differs from the second, for the flowers of the Giants are truly enormous in size. While visiting the collection at Suttons' a week ago, one of the individual flowers was measured, and spanned 2½in across from edge to edge of the corolla. That is no mean stretch. These Giants are represented in varieties with distinctive colours. Simple names are adopted: thus, there are Giant Pink, Giant White, Giant Crimson, Giant Terra-Cotta, and mixtures of these are also offered. Naturally, Giant White and Giant Crimson are both greatly prized wherever grown, and to those who have not added Giant Pink the variety can be urgently commended for a trial in the coming season. Giant Terra Cotta in colour approximates to the hue that gives it its name; but the flowers are not perfect terra-cotta colour, having much of the salmon-pink shade. Royal White is endowed with a compact habit like the others, and the typical large flower erectly held on stout trusses. Another of these, and this one much more novel, is Giant Lilac, whose name is a good guide to its tint. It should be pointed out that some of the varieties have two kinds of foliage. There is the palmate-leaved Giant Pink and the Fern-leaved Giant Pink. Many growers have a preference for one or other of these distinctive forms of leafage, and it would be well to make special reference to the point in the order list. The foregoing is representative of the varieties there are to select from, and by the wise adoption of such popular names the need for a description of the colours is almost entirely abolished.

Sutton's Primulas.

The lesser-flowered section, which one finds catalogued as "single Primulas," in all respects, except in a lesser size of flower, resemble the Giants. Here one might introduce the Duchess, one of the loveliest varieties that surely could be chosen, even from such a varied collection as are at Suttons'. It has an orange-coloured eye, round which is a broad out-spreading band of bright mauve, and shading off to pale pink or almost pure white at the fimbriated edge. The wavy edges, by the way, are exceedingly attractive.* In the same group comes Pearl, which has stood the test of time for twenty years, and still maintains its place as one of the best Primulas for greenhouse culture. The colour is white. Brilliant Rose carries its splendid trusses well above the foliage. Under artificial light the flowers appear almost scarlet. It is a good variety. Reading Blue is a great favourite. There are many shades of blue, and personally I would describe the colour a very decided bright lavender, which tint is comparatively rare amongst flowers of this class. In the Royal Gardens at Kew a magnificently fine batch of the Reading Blue Primula is now, and has been since Christmas, on show. This and Reading Pink are staged side by side at Kew, and are a pleasure to the eyes of all who are privileged to see them.

Besides the blue just named, another comes to mind. This is Sutton's Blue, Fern-leaved. The foliage, indeed, is the chief feature that distinguishes the two varieties. Cambridge Blue is much lighter coloured than any of the others; it is true Cambridge blue when at its best. Fern-leaved Rosy Queen is very pretty, and certainly may be named as one of the best. Reading Scarlet, I trust, is known and grown in every garden. It would be chosen amongst the brightest half dozen. The two forms of Crimson King (the palmate and the Fern-leaved) are splendid subjects, a special point with them being their intensely deep and rich colour. Before leaving the blues it would have been apposite to refer to an unnamed seedling with flowers of a very pretty form and deeper in colour than any of the other blues. Purple-violet would somewhat describe it, or it might be likened

* Since this was written, the Duchess Primula has been specially honoured with an Award of Merit, which, to varieties of this class of plant, is decidedly unique.—ED.

in colour to Tibouchina macrantha, that excellent and beautiful greenhouse climbing plant. But more will be said of this new-comer another year. And lastly, in this place must be mentioned Snowdrift. This is one of the earliest of all, and maintains the purity of whiteness all through its period of flowering. Even if Snowdrift is sown last, it seems to come into flower first. The flowers are beautifully fimbriated, of good substance, and are well held. With a selection from those here named our greenhouse will be ensured for brightness—a brightness not vulgarly glaring, but varied and highly pleasing. It is necessary to call a halt here for the nonce, but I would like shortly to complete an enumeration of the choicer varieties in the remaining three sections.

Messrs. Cutbush and Son, Highgate.

Limitations of space caused me to break off before I had mentioned the Ivies noted by me when on a visit to Messrs. Cutbush and Son's Highgate Nurseries recently. These are grown in pots, and the long growths are trained to erect supports. Plants ready for immediate planting, and ranging from 2ft to 15ft high, are thus always on hand. Some of the more ornamental varieties include caenwoodiana, chrysocarpa, dentata, digitata, lobata major (one of the best for covering old tree stumps, walls, and banks), lucida, palmata, and donerailensis, while the variegated varieties are maderiensis foliis variegatis, maculata, lucida aurea, aurea spectabilis, digitata aurea, and others. The various Cytisus (Broom), especially the handsome C. Andreanus, were finely represented. The Ampelopsis in beds, potted up like the Ivies, also engaged attention, and out in the open part of the grounds there were capital growths of Mulberries, Chestnut, and Beech trees, Hollies, and Birches. Of course, these are only grown in quantity at the Barnet Nurseries, in Herts, some miles out in the country, but representatives of them flourish at Highgate. The Messrs. Cutbush have been forming another branch nursery at Finchley, so that this old firm is still "forging ahead."

Some scores of Calla Elliottiana, just ready to start growth, and in various sizes of pots, were pointed to, under a cool house stage. The pink Calla (Richardia Rehmanni) is also at the Highgate Nurseries. Lily of the Valley, in ash beds, and a wondrously vigorous collection of Nerine Fothergilli major, in cold pits, claimed consideration, the latter, along with a number of finely berried Aucubas, appearing to me as deserving special notice in virtue of their grand condition. Ghent and mollis Azaleas, together with a very large selection of clipped trees, mostly Box, Yew, and Sweet Bay, are at Highgate to choose from. The trained Sweet Bays, standing 12ft to 14ft. high, with large dome-head, narrow middle, and bulging base, would add imposing features to any stately, formal terrace or garden. There are also standard Bays with rounded heads.

Waltham Cross.

It was interesting to see the Roses that will be so admired soon at the forthcoming show of the Royal Horticultural Society, in the Inner Temple Gardens, grouped in a state stark and bare, early in January, at the Waltham Cross Nurseries of Messrs. William Paul and Son. I was there just a day or two previous to the time when they were to be placed under charge of the pruner, thence to be grown-on for the auspicious date in May, whence the noblest in the land will be pleased to view their beautiful flowers. In an adjoining house to that in which the Temple Show Roses (so to name them) were grouped, there were splendid samples of Maréchal Niel variety, mostly in 7in pots, in height 12ft to 15ft, having clean, firm stems, well studded with prominent buds, and in thickness double that of an ordinary lead pencil. These are not grown on their own roots, as many recommend, but budded on seedling Briars. Few finer stocks of this favourite variety will be found anywhere. A very large and handsome span-roofed house, containing the newer varieties of pot Roses, had already been stocked and set in working order. The vigour of the young shoots starting from the stout and ripened wood, promised an ample return of flowers at an early period of the year.

In the open air large "breaks" were devoted to seedling Roses, these being protected by spruce branches, and others by rough litter loosely scattered over them. Again to the glass houses, and here was noticed that large-leaved Tobacco plant with yellow variegation, and properly named Nicotiana affinis variegatis. Messrs. Paul staged a large group of this plant—not quite a novelty, having been grown now for ten years or so—about two years ago in the Drill Hall, when an Award of Merit was bestowed upon it. As an imposing and highly ornamental subject for the flower garden or ornamental grounds during summer, the plant has much to recommend it. As it can be induced to grow throughout the winter, given a little heat, its use in the larger types of winter conservatories might be commended, and the plants would again be ready for the open air when the time arrived. A tall standard could be formed of it, though doubtless this would not be advisable. By "heading" the plants—that is, taking off the tops and rooting them afresh—a dwarf size could always be ensured.—WANDERING WILLIE.

Societies.

Gardeners' Royal Benevolent Institution.

Important Alteration of Rules.

In London, on Thursday, the 26th inst., Harry J. Veitch, Esq., presiding, a meeting of subscribers to this institution assembled at one o'clock, and, after a fair amount of discussion, it was decided to abolish Sub-sections 5 and 10 of Rule III. as they have hitherto existed, and substitute in their place the following:

"All candidates eligible under Rule III., Sub-section 2, who have been annual subscribers, or the widows of such, shall be entitled to receive a certain number of votes in proportion to the number of years they have subscribed, that is to say: For each guinea subscribed for each year 100 votes, and in like manner the votes to be increased for each additional guinea per year subscribed. All candidates who are or may become life members by payment of ten guineas, and who are eligible under the same rule and sub-section, or the widows of such, shall be entitled to receive 100 votes for each year of life membership, but such 100 votes per year shall not continue to be given for more than ten years, being 1,000 votes for the 10 guineas, and by payment of 20 guineas be entitled to 200 votes per year not exceeding ten years being 2,000 votes for the 20 guineas, and so on in proportion, but subject, nevertheless, to such other rules as apply to the election of pensioners."

Before the above had been proposed by A. W. Sutton, Esq., the chairman mentioned that the present change was not brought forward hurriedly; it was no new suggestion, but had been proposed in committee three years ago. Some of the subscribers might ask, Why was the proposed alteration necessary? In answer, he stated that the rule presses hard some of those who have been on the pension list for two or three years, while many who have subscribed for fifteen years are placed on the funds, without election, right away. Those who have not subscribed for this period are thus at a great disadvantage. The number of those coming forward under Rule III., Sub-section 5, is yearly increasing, and it was felt that some alteration was necessary. Mr. Sutton supported this when he proposed the resolution, saying that it was becoming more keenly felt each year that if the auxiliary societies kept sending in life members qualified to go on to the funds of the institution its resources would be swamped. The life membership principle had been held out to gardeners when a branch or auxiliary was being founded, and he was sorry if the new rule seemed somewhat against the hopes that some of the life members may have formed. But as each life member will receive 1,000 for his 10 guineas this was hoped to materially assist them at an election. Mr. George Monro (Covent Garden) seconded, and pointed out that many of the subscribers seemed to look upon the institution purely in the light of a benefit society. He wished to have it clearly understood that it is not a benefit society in any shape or form; it is first and last a charitable institution, subscribed to by all classes of the horticultural community for the relief of aged and distressed gardeners. After Messrs. Owen Thomas, J. H. White (of Worcester), R. Piper (Worthing), Geo. Wythes, A. Watkins (Strand), — Wheeler, and the hon. solicitor (Thos. F. Peacock) had spoken on the subject of the resolution, the matter was put to the vote, only two voting against it and the overwhelming majority for it.

Mr. Geo. Wythes proposed (seconder unrecorded) the following amendment to Rule III., Sub-section 3: "After 'total incapacity' in second line, insert the words 'through accident or incurable disease.' After 'incapacity' in fifth line, insert the words 'from work at any age.' After the word 'certificate' in sixth line, insert the words 'such certificate to be given when required by the committee of the institution by a medical officer to be appointed by them;' also to Rule III., Sub-section 2: "substitute the words 'list of candidates for pension list' in the sixth line." Both amendments were unanimously agreed to.

The following alterations to Rule IV., Sub-section 2, were also discussed and agreed to:—Rule IV., Sub-section 2: "Strike out the words 'one vote for each vacancy' in third, fourth, and seventh lines, and insert the words 'five votes.'" Rule IV., Sub-section 3: "Strike out the words 'one vote for each pensioner to be elected' in fourth and fifth lines, and insert the words 'five votes at all elections of pensioners.'"

Then in Rule XIII., Sub-section 1: "Strike out the words 'All life subscriptions received from those members who may become eligible as pensioners under Rule III., Sub-section 2, and'

"Add the following new rule:—Rule III., Sub-section 10: 'After each election, the committee may, if they think fit, award pensions to not more than two of the remaining unsuccessful candidates.'"

This new rule is inserted for the benefit of those candidates whose cases are really necessitous yet who are without friends. The meeting lasted about an hour. At three o'clock the usual annual assembly met, when the annual report and balance-sheets (as audited) were read and adopted.

Annual Report.

The committee have much pleasure in submitting their annual report and statement of accounts, as audited, for the year 1901, and in doing so desire to congratulate the subscribers and friends of the institution on its continued prosperity and the success which has attended its efforts on behalf of the aged, disabled, and distressed people who have been obliged through misfortune and necessity, occasioned by no fault of their own, to seek its benefits, and the aid thus afforded, it is encouraging to know, is most gratefully appreciated by the recipients in their days of need.

At the beginning of the year 181 persons—98 men and 83 widows—were receiving life annuities of £20 and £16 respectively. Of this number, during the year thirteen had passed away—ten men and three widows—whilst two widows have been removed from the list, one having been sent to an asylum owing to her mental condition, and the other to an infirmary on account of advanced age and illness, and consequent inability to pay for the medical attendance and nursing she now requires. Of the men deceased, four left widows, and their circumstances being of a deserving and necessitous nature the committee have been enabled under their rules to award them the widows' allowance of £16 a year. There were, therefore, at the close of the year 170 recipients of permanent relief; and the committee, notwithstanding that they have eleven vacancies only, recommend an addition of twenty pensioners to be elected this day, making a total of 190 persons on the funds, being nine more than at the corresponding period of last year, and the largest number of beneficiaries receiving life annuities from the institution in any year since its foundation. Whilst the committee are keenly alive to the increased liability thus entailed, they have been influenced in their action by the generous financial support hitherto accorded to the institution, which they are encouraged to hope will be continued and increased in the future, so that there will be no necessity for the work to be in any way curtailed. The committee are much gratified to be able to report that the anniversary festival dinner, which took place in May last under the presidency of the Right Hon. Lord Llangattock, was most successful, a substantial amount being realised in aid of the funds. For this pleasing result the committee are deeply thankful, and desire to place on record their great indebtedness to Lord Llangattock for his kindness in presiding, his able and warm advocacy of the institution's claims, and for his lordship's generous contribution to the funds. The committee take this opportunity of offering their sincere thanks to the stewards, collectors, donors of flowers, the horticultural Press, and to other helpers who contributed in any way to make the festival a success.

The committee have much pleasure also in drawing attention to the continued progress of the valuable auxiliaries, from which the following amounts have been received during the past year: Bristol and Bath (hon. sec., Mr. G. Harris), £80 17s.; Devon and Exeter (hon. sec., Mr. W. Mackay), £30; Reading and District (hon. sec., Mr. H. G. Cox), £70 7s.; Wolverhampton (hon. sec., Mr. Richard Lowe), £20; Worcester (hon. sec., Mr. Percy G. White), £85. The hon. secretaries are most cordially thanked for their valued services so ungrudgingly given to the cause, as are also other friends in various parts of the country who, either by arranging concerts, opening of gardens, holding flower stalls, or in other ways so generously furthered the interests of the institution. The committee are glad to be able to state that the special funds have proved a source of incalculable benefit. From the "Victorian Era Fund" nearly £100 was distributed during the past year amongst the unsuccessful candidates at the last election who were formerly subscribers to the institution, whilst a sum of £48 has been given from the "Good Samaritan Fund" as a temporary help to several cases of a particularly distressing nature. This latter fund has been augmented in the past year, and the committee rejoice that the increased income from that source will enable them to respond favourably to more of the many pathetic appeals which so frequently come before them. They would, however, again point out that only the interest derived from this fund is available, and they therefore very earnestly commend its object to those friends who have it in their power to increase its usefulness.

The committee have to make the very gratifying announcement that His Royal Highness the Prince of Wales has graciously consented to succeed His Majesty the King (now patron) as president of the institution, for which mark of Royal favour and recognition they are deeply grateful, and they feel sure that every friend of the institution will unite with them in tendering His Royal Highness their most humble and respectful thanks. The committee congratulate the members on the alterations in the rules which have been this day decided upon at the special meeting, feeling convinced that they will very largely conduce to the still greater success and well-being of the institution in the future. The committee cannot conclude their report without referring with great regret to the many losses that have occurred through death in the past year amongst the valued friends and supporters of the institution. These losses will be severely felt, and the committee therefore plead most earnestly for renewed effort to fill the places of those subscribers who have passed away, that

the work may be not only maintained, but that further help may be forthcoming to such an extent as to warrant an enlargement of its beneficent agency on behalf of a class who in their day have done so much to brighten the lives and minister to the necessities of others.

Balance-sheet, 1901.

DR.	£	s.	d.	£	s.	d.
To balance				1028	3	3
„ amount on deposit				3315	10	0
„ annual subscriptions	1533	16	4			
„ donations at and in consequence of festival dinner, including collecting cards	1636	7	3			
„ return of income tax	42	19	3			
„ advertisements in annual list of subscribers	51	6	0			
„ dividends and interest	903	3	7			
				4167	12	5
Total				£8511	5	8
CR.	£	s.	d.	£	s.	d.
By pensions and gratuities				3155	11	8
„ expenses, annual meeting and election				10	5	9
„ secretary's salary	275	0	0			
„ office assistance	29	12	3			
„ rent, cleaning, firing, light, &c.	88	17	11			
				393	10	2
„ printing, including annual reports, appeals, voting papers, &c.	119	11	6			
„ stationery, &c.	20	14	3			
„ cheque books	6	1	4			
„ festival expenses, £191 4s. 7d.; less dinner charges, £119 14s.	71	10	7			
„ wreath, address, &c., Her Majesty Queen Victoria	6	19	6			
„ postage, including reports, voting papers, appeals, &c.	53	0	0			
„ travelling expenses	5	13	9			
„ carriage, telegrams, repairs, and incidental expenses	7	16	7			
„ bank charges	0	2	6			
				291	19	0
„ amount transferred to "Good Samaritan Fund"	1000	0	0			
„ amount placed on deposit	2715	10	0			
				3715	10	0
„ balance with treasurer	940	13	1			
„ „ „ secretary	4	5	0			
				944	18	1
Total				£8511	5	8

Victorian Era Fund—Balance-sheet, 1901.

DR.	£	s.	d.	£	s.	d.
To balance				72	16	7
„ dividends	124	14	0			
„ return of income tax	6	0	7			
				130	14	7
Total				£203	11	2
CR.	£	s.	d.	£	s.	d.
By gratuities				91	5	0
„ balance, December 31st, 1901				112	6	2
Total				£203	11	2

Good Samaritan Fund—Balance-sheet, 1901.

DR.	£	s.	d.	£	s.	d.
To balance				561	15	1
„ donations, 1901	222	3	0			
„ dividends	38	10	0			
„ return of income tax	0	18	1			
				261	11	1
„ amount from deposit account of general fund				1000	0	0
Total				£1823	6	2
CR.	£	s.	d.	£	s.	d.
By gratuities				48	0	0
„ purchase of £536 19s. 9d. 2½% Consols	520	0	0			
„ purchase of £610 Great Western Railway 5% Railway debentures	1001	8	0			
				1521	8	0
„ balance in hand, December 31st, 1901				253	18	2
Total				£1823	6	2

Having audited the accounts, we certify the same correct and the books in good order. We also certify that the securities of the invested funds are in the hands of the bankers, by whom the dividends are received on behalf of the institution.—THOMAS MANNING, THOMAS SWIFT, JESSE WILLARD.

Following the reading of the report, the chairman expressed his satisfaction with the state of the Institution, and also pointed out that there are now nine more pensioners on the funds than ever before. The interest in the society's affairs was also spreading in the country, and they had received a letter from a provincial centre asking that a deputation be sent from the head office to start an auxiliary branch. He also pointed out that during the past year a great many candidates, while waiting to be elected to the full benefits of the funds had been receiving advances of money, amounting in rate to 25s. for every year they had been subscribers to the Institution. Some of the candidates had received as much as £15. He moved the adoption of the report, and Mr. G. Monro seconded. The latter drew attention to the Good Samaritan Fund, which goes specifically to those who have not subscribed to the funds. The report was adopted.

The following elections were then proceeded with: Harry J. Veitch, Esq., re-elected treasurer and chairman of committee, proposed by Mr. G. Monro, seconded by Mr. Osborn, and agreed to with applause. Mr. George J. Ingram, re-elected secretary, proposed by Mr. G. Wythes, seconded by Mr. Watkins; unanimous.

"Messrs. Denning, James Douglas, G. Mouro, James H. Veitch, Geo. Wythes, W. Atkinson, P. Blair, and N. F. Barnes, who retire by rotation, were re-elected members of the committee, and Mr. P. Rudolph Barr was elected a member of committee in place of Mr. C. Ranger Johnston, who retires by rotation." Proposed by Mr. Geo. Paul, seconded by Mr. Cuthbert. Mr. White, of Worcester, proposed the re-election of the auditors, which was seconded and agreed to, and Mr. James Hudson proposed the re-election of the arbitrators, seconded by Mr. G. Monro. Thereafter the voting for eight pensioners took place, the scrutineers of the ballot being Mr. E. C. Mott and Mr. B. Monro. At half-past five o'clock the successful candidates were announced in this order: 1, Atkins, Edwin, votes 4,735; 2, Wilder, John, 4,486; 3, Hunt, Richard, 3,917; 4, Hicks, Samuel, 3,677; 5, Herrington, Wm., 3,202; 6, Marlow, Geo., 2,922; 7, Wigton, Eliza, 2,872; 8, Baxter, Elizabeth, 2,744. There were thirty-three unsigned voting papers, representing 336 votes wasted. Twenty-five candidates were unsuccessful. The annual friendly supper was held at six o'clock, when toasts, songs, recitations, and instrumental music were rendered. Among those present were Alderman Piper (of Worthing) in the chair; Messrs. Harry J. Veitch, Peter Veitch (Exeter), Arnold Moss (Jacob Wrench and Sons), Harry Turner, James H. Veitch, John Gould Veitch (Lieut.), Morgan Veitch, G. Paul, John Laing, — Cuthbert, H. J. Cutbush and Wm. Cutbush, S. T. Wright (Chiswick), S. T. Cook, E. Wythes (Syon), H. B. May, B. Wynne, P. Kay, G. Monro, J. Sweet, J. F. McLeod, W. Taylor, — Assbee, A. Peacock and Geo. Norman (Hatfield), and White (Worcester). The pressure on our space has prevented any further reference to the evening's proceedings.

Royal Horticultural—Drill Hall

January 28th.

The chief features at Tuesday's meeting were Messrs. Sutton's Primulas, Col. Vivian's Apples, and numerous exhibits of Orchids. We must not omit to mention J. Gurney Fowler's photograph in natural colours of *Cypripedium insigne* Fowlerianum, and which we refer to elsewhere. Mr. Geo. Bunyard, V.M.H., lectured in the afternoon, but the National Sweet Pea Society's meeting held at 3 o'clock debarred our attendance longer in the Drill Hall.

Orchid Committee.

Present: Harry J. Veitch, Esq. (in the chair); with Messrs. James O'Brien, de B. Crawshay, H. Ballantine, N. C. Cookson, R. Brooman-White, Jas. Douglas, E. Hill, Frank A. Rehder, H. T. Pitt, G. F. Moore, T. W. Bond, N. A. Bilney, H. J. Chapman, W. Boxall, W. H. Young, H. A. Tracey, J. Wilson Potter, Jeremiah Coleman, and J. G. Fowler.

Phalænopsis Schilleriana, and *P. amabilis*, from Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, were highly creditable. Nine open large flowers were counted on a number of the racemes. He also staged *Lælia anceps* Sanderiana, with an inflorescence of six huge flowers. *Odontoglossum Loochristiense*, deeply coloured, was also very handsome, and a small plant of *Trichophilia coccinea* was interesting. (Silver Flora Medal.)

Messrs. Charlesworth and Co., Orchid growers, Heaton, Bradford, had a bright display, comprising *Lælio-Cattleya* Charlesworthi princeps, L.-C. Charlesworthi (*L. cinnabarina* x *C. aurea*), very rich, deep purplish apricot colour. *Oncidium splendidum* and *Odontoglossum crispum* were handsome and showy. *Lycaste lasioglossa*, with chocolate sepals and yellow petals, was an object of decided interest. (Silver Banksian Medal.)

Jeremiah Coleman, Esq. (grower, Mr. W. P. Bond), Gatton Park, Reigate, had the largest group of Orchids exhibited on this occasion. The group consisted of a mixed collection of *Dendrobiums*, *Calanthes*, *Lælias*, *Odontoglossums*, and *Zygopetalum Mackayi*. *Lælia anceps* Stella and *L. a. Schröderiana* were very attractive. (Silver Flora Medal.)

A cultural commendation was given to a plant of *Angraecum sesquipedale* from A. Seth Smith, Esq., Silvermere, Cobham, Surrey. The plant bore two inflorescences, representing ten monster waxy white flowers.

Messrs. Hugh Low and Co., Bush Hill Park, Middlesex, staged *Cattleya trianae* Mrs. de Barri Crawshay, L.-C. *Luminosa*, Hesse variety (*C. aurea* x *L. tenebrosa*).

F. Wellesley, Esq. (gardener, Mr. J. Gilbert), Westfield Common, Woking, staged five *Cypripediums*, to wit, *C. x Hera* superbum, with very attractive dorsal sepal; *C. x Miss Castellan*, *C. x celeus* (a superb form and beautiful in colour), *C. x Dr. Conway*, with a combination of mauve, white, green, and black in dorsal sepal; and lastly, a new hybrid named *C. rubescens* Ranjitsinhji.

A cultural commendation was given to de B. Crawshay, Esq., for a plant of *Odontoglossum Pescatorei rosefieldiense*.

Floral Committee.

Present: Charles E. Shea, Esq. (in the chair); with Messrs. Chas. T. Druery, H. B. May, James Walker, R. Dean, G. Reuthe, J. F. McLeod, Jas. Hudson, J. Jennings, Wm. Howe, Chas.

Dixon, Chas. Jefferies, C. R. Fielder, Geo. Gordon, Chas. E. Pearson, Herbert J. Cutbush, H. J. Jones, E. H. Jenkins, Chas. Blick, Geo. Paul, Wm. J. James, and F. Page Roberts.

Messrs. J. Hill and Son, Barrowfield Nurseries, Lower Edmonston, Middlesex, as specialists in Fern culture, were forward with a representative collection. Whether in small or large pots, all were dense, robust, fresh, and clean. The handsome *Asplenium lucidum*, with glossy pinnate leaves, occupied a corner position; *Lastrea patens*, having light green, recurving fronds, was found in the centre, and along with it some of the crested Gold Ferns, also the finer *Adiantums* and *Nephrolepis*. The pretty *Adiantum rhodophyllum*, with reddish tinted pinnæ, was shown as few can show it; and we might also mention *Pellaea rotundifolia*, *Cheilanthes elegans*, *Asplenium inæquale*, with proliferous fronds, and lastly *Nothochlæna sinuata*. (Silver Flora Medal.)

Messrs. James Veitch and Sons, Limited, again brought forward a group of the blue-flowered *Coleus thyrsoideus*, whose tall and prominent spikes made a brilliant display in the somewhat dull Hall.

Messrs. Sutton and Sons, Reading, exhibited the first group of *Primulas* we have this season noted. Those who know the length of the long central tables will understand how bright and beautiful the Sutton's exhibit was, filling, as it did, both sides of one of these tables, and relieved with suitable foliage plants. The varieties were staged in sections of about twenty plants each, side by side, pink next to white or to crimson. The notes we have on another page of the present issue, under "Gadding and Gathering," will serve as a guide to the varieties. (Silver Flora Medal.)

Mr. G. Lange, Hanworth Road, Hampton, Middlesex, staged the *Begonia alba grandiflora* (Award of Merit), which is free and graceful, very much like Rochford's Turnford Hall.

Messrs. Barr and Sons, King Street, Covent Garden, had a small group of *Irises* and *Lenten Lilies*, each bearing a profusion of flowers. *Iris persica Heldreichi*, *Iris reticulata histrioides*, and *I. Danfordiæ*, were very smart, and attracted considerable notice. Mr. Wm. Barr has devoted much time to the *Hellebores* within recent years. We admired a new variety of the latter, *H. colchicus magnificus*, rich, decided mauve, purple in shade and free in flower. For wreath making this would afford a splendid contrast to the pure white flowers of *H. niger*, *H. n. septicus*, and others. *H. Don Quixote* is another dark variety. We must conclude by noticing *Iris unguicularis*. The group was most tastefully arranged, the *Irises* peeping through moss. (Silver Flora Medal.)

Messrs. T. S. Ware, Limited, Hale Farm Nurseries, Feltham, London, staged hardy spring flowering plants in pots. Amongst these were *Galax aphylla*, *Shortia galicifolia*, both dwarf ornamental foliaged plants, which we highly commend for rockeries. *Sternbergia Fischeri*, with yellow flowers; *Iris Danfordiæ*, also yellow; *I. reticulata purpurea*, *I. persica Heldreichi*, *Gentiana acaulis*, and *Saxifraga Burseriana* were all on view.

Messrs. Geo. Jackman and Son, Woking Nursery, Woking, sent *Iris tubergeniana*, *I. Tauri*. Earl Ilchester, Holland House, staged *Loropetalum chinense*.

M. Linden, Brussels, staged *Hæmanthus imperialis*, and *H. murabilis*, the former being much the better; and received a F.C.C.

A delightful exhibit of *Primula sinensis* Island Gem was brought up from the Isle of Wight County Council (gardener, Mr. C. Martin), 20, Holyrood Street, Newport, I.W. The flowers are double, in large trusses, bearing as many as twelve to fifteen long stalked flowers. The colour is rich rose pink.

Messrs. de Luzy, Frères, 44a, Harold Street, Camberwell, London, S.E., again showed their improved powder bellows.

Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq. (in the chair); with Messrs. Hy. Esling, Jos. Cheal, S. Mortimer, Alex. Dean, C. Herrin, M. Gleeson, H. Markham, Geo. Kelf, Edwin Beckett, G. Norman, J. Willard, James H. Veitch, H. Balderson, G. Shaw Blaker, and W. Wilks.

Lieut.-Col. Vivian (gardener, Mr. W. Strugnell), Rood Ashton, Trowbridge, Wilts, staged thirteen dishes of Apples, including an assortment in a box. Fine samples of Claygate Pearmain, Reinette du Canada, Fearn's Pippin, Annie Elizabeth (especially fine), King of Tomkins County, Hoary Morning, Newtown Pippin, and Dutch Mignonne were on view. (Silver Banksian Medal.)

Mr. J. Harris, Blackpill Nurseries, Swansea, staged good samples of Potato Sir John Llewelyn, a fine smooth kidney variety of large size. He had a cultural commendation for some samples of this variety from field culture. A cultural commendation was accorded Earl Ilchester (gardener, Mr. Dixon) for a dish of Pear Beurré Rance. Lord Suffield (gardener, Mr. Wm. Allen), Gunton Park, Norwich, received a cultural commendation for Pear President Barabé.

Certificates and Awards of Merit.

Begonia alba grandiflora (L. Lange).—Freer and looser in habit than the typical form of *Gloire de Lorraine*. The flowers are much the same in size and form, white, tinged faintly with pink. Award of Merit. Mr. L. Lange, Hampton.

Cypripedium insigne Fowlerianum (Gurney Fowler, Esq.).—A strong, handsome flower, richly coloured. The dorsal sepal curves inwards at the top, the margin being white, centre deep purplish chocolate, breaking into bars and large dots here and there, also a yellowish tinge in places; lip and petals brownish-red and glossy. Award of Merit. J. Gurney Fowler, Esq., Glebelands, South Woodford.

Cypripedium rube cens Ranjitsinji (F. Wellesley, Esq.).—The flowers are large, dorsal sepal deep purple-black, streaked greenish, edged white; lip brownish and smooth; sepals narrow, almost fluted, wavy, brownish chocolate and glossy. Award of Merit. F. Wellesley, Esq., Woking.

Cypripedium × *Venus*, *Oakwood* var. (Norman Cookson, Esq.).—A wonderful hybrid from *C. nivenum* and *C. insigne* Sanderæ. With such parentage it is to be expected that a strikingly distinct and light coloured variety would result. This is just what has been produced. The lip is creamy with a suspicion of greenish shade; the forward curving petals are paler still, and dotted all over with reddish spots; the dorsal sepal is wavy edged like the petals, with white margin and tinged green towards the centre, being also spotted. The new comer received marked attention. First-Class Certificate. Norman Cookson, Esq. (grower, Mr. Wm. Murray), Oakwood, Wylam.

Dendrobium Wardianum Fowleri (Gurney Fowler, Esq.).—This is a large and stout-flowered variety, the chief characteristic of difference from the type being the rounded form made by the sepals and petals. These are very sinuous, and beautifully crimped at the apex; the colours also are deep and well marked. Award of Merit. Gurney Fowler, Esq. (grower, Mr. J. Davis), Glebelands, South Woodford.

Hæmanthus imperialis (Linden, Brussels).—This Belgian firm staged a splendid selection of *Hæmanthus*es last season, and on this occasion received an award for a species with bold flowers, rich crimson-carmine, held up on a stout stalk, forming a spherical mass of flowers at the top thereof. Award of Merit.

Lælia anceps Hallidayana, var. *Crawshayana* (de Barri Crawshay, Esq.).—Broad petals slightly recurving, pure white; sepals considerably narrower; lip prominent, wavy; apex curves downwards, touched in front with bright purplish-mauve; back in the throat there is a broad and prominent yellow midrib. First-Class Certificate. de Barri Crawshay, Esq. (gardener, Mr. W. J. Stables), Rosefield, Sevenoaks.

Lælio-Cattleya Cappei (Sir F. Wigan).—Flowers graceful, slender, drooping, petals and sepals narrow, and coloured rich golden chestnut or golden apricot; lip long, narrow, fluted, and purplish. Award of Merit. Sir Frederick Wigan (grower Mr. W. H. Young), Clare Lawn, East Sheen.

Lyceast Skinneri Lady Gladys (Charlesworth & Co.).—Smaller than the type, "smart" flowers, well outspread, and in colour almost pure white, the apex of petals tinged mauve.

Odontoglossum pardinum (H. T. Pitt, Esq.).—Resembles *O. cirrhosum* in form, colour deeper yellow and red spotted; a tall raceme. Botanical Certificate. H. T. Pitt, Esq. (gardener, Mr. F. W. Thurgood), Stamford Hill.

Primula sinensis The Duchess (Sutton & Sons).—The award on this occasion was bestowed on an individual variety. Hitherto the strain in such classes of plants as this has been taken as a whole, but so distinct is this large-flowered variety that an exception was deservedly made. The centre is rosy-carmine, edge pale peach-hue and fringed. The eye is greenish yellow. Award of Merit. Sutton and Sons, Reading.

Cardiff Gardeners.

At the Grand Hotel on Tuesday, January 21, Mr. F. Lee (representative of the Bristol Gardeners' Association) read his first prize essay on "Orchids." He dealt with the subject in a very interesting manner, and gave evidence of a practical knowledge of a branch of horticulture which is of an engrossing and increasing interest. A good discussion followed, being enthusiastically taken up by a large number of the members present. The best thanks of the association were accorded Mr. Lee for his splendid paper, and a similar vote to Mr. F. G. Treseder for presiding. Mr. J. J. Graham was awarded a first-class certificate for a fine plant of *Cyclamen latifolium giganteum album*; also Mr. Bath was awarded a second-class certificate for a well-grown plant of *Epiphyllum truncatum*.

Strathmartine (Dundee) Horticultural.

The second of a series of lectures on horticultural subjects, inaugurated by the Strathmartine Horticultural Society was recently delivered in the Downfield Public Hall. The lecturer was Mr. James Simpson, Dalhousie Nurseries, Broughty Ferry (Messrs. Croll), and his subject was "Roses." He compared advice given by an English expert in Roses with his own experience, in which he showed that while some authorities treated certain kinds of Roses as tender plants, he, on the other hand, treated them as particularly hardy, and with the best results. He touched on the preparation of the soil necessary, pruning, and the care of the roots, dealing with insects, protection against rain and storm, &c. A beautiful display of pot plants, some of which were in bloom, was arranged on a stall in front of the platform by Messrs. Thyne and Paton. A collection towards the funds of the society was taken on retiring.

Woolton Horticultural.

Mr. J. Stoney presided at the annual meeting held in the Mechanics Institute on January 24. The secretary, Mr. Leary, gave a capital account of the year's working, remarking on the excellence of the cottagers' section, and the increasing interest taken by subscribers, the exhibits being so numerous that two halls were required to accommodate them. No doubt with willing work from the excellent committee some solution will be forthcoming. Mr. R. G. Waterman, sub-treasurer, gave the welcome news that they had a balance of £36, which will be used most judiciously in furthering horticulture. Mr. Neil Gosage was again made president, and Messrs. Waterman and Leary in their old positions. Votes of thanks to the officers and chairman were passed with acclamation.—R. P. R.

Reading Gardeners.

The annual report of the Reading and District Gardeners' Mutual Improvement Association, to hand, points to a very successful year's work, and shows the society to be vigorous and resolute to do further useful work. Mr. Cox is an able secretary, and with Leonard G. Sutton, Esq., as president, and one who actively takes his part, the association may hope to open out into a permanent and very influential organisation. The ablest of practical gardeners and other specialists alone are privileged to appear before the members, and they are jealous of the good standing of both themselves and the society. There is a balance of money at the bank, to the amount of £19 1s. 4d., which is a nice little nest-egg to contemplate. The following is the coming quarter's programme of meetings:—Feb. 10, "Salient Points of Fruit Culture," Mr. E. Molyneux, Swanmore Park. Feb. 24, "Impromptu Speaking," subjects to be named at the meeting. March 10, "A Berkshire Garden: how it was laid out and planted." Illustrated. Mr. A. Wright, Bucklebury Place Gardens. March 24, "Flowering Shrubs for Forcing," Mr. W. Townsend, Sandhurst Lodge Gardens. April 7, "Carnations," Mr. G. Stanton, Park Place Gardens. April 21, "The Rock Garden," Mr. E. H. Jenkins, Hampton Hill. April 28, Visit to Reading College. •

Croydon Mutual Improvement.

The second annual dinner and social evening of the Croydon and District Horticultural Mutual Improvement Society was held with great success at the Greyhound Hotel, on Wednesday evening last. Mr. Frank Lloyd (the president of the society) was in the chair; Mr. George Gordon, F.R.H.S., V.M.H., occupied the vice-chair, and the chairman's supporters included the Mayor of Croydon (Councillor N. Page), Mr. J. J. Reid, Mr. W. J. Simpson, Mr. W. Gunner, Mr. J. Gregory (hon. secretary), Mr. Belcher, Mr. P. F. Bunyard, Mr. C. F. F. Hutchings, Mr. W. Turney, &c. There was a large attendance of members and friends; 105 sat down to dinner.

After the usual loyal toasts, the Chairman proposed the principal toast of the evening. He congratulated the officers of the society on the great success attending their efforts during the past year and the individual members of the society on the admirable series of lectures delivered for their benefit and encouragement. The thanks of the society were due to the lecturers, and more especially to the officers who worked hard on their behalf, notably and especially their friend Mr. Gregory, the hon. secretary. (Applause.) Mr. W. J. Simpson, in responding, said that the membership was now somewhere about 150, and a great many others were waiting to be elected, so he thought there was every prospect of their increasing in the future.

Mr. J. Gregory proposed "Kindred Societies." It was through mixing with kindred societies, and enjoying their papers, their readings, and their discussions, and getting the benefit of their knowledge and experience, that he was encouraged to take up the matter of mutual improvement societies in Croydon. Through them he had received considerable encouragement, and their advice and suggestions he had tried to bring before their own society and get them adopted. Hence he thought they at Croydon were indebted to the kindred societies in the neighbourhood. He coupled with the toast the names of Mr. Jay, of Sutton, and Mr. Mark Webster, of Beckenham. Mr. Jay, in responding, said that the Sutton Society was indebted to those at Croydon for invaluable help, and it was greatly through that help that their society had done so well of late. Mr. Webster also thanked the Croydon Society for the help rendered to the Beckenham Society.

The chairman then made a presentation to Mr. Gregory on behalf of the society of a purse containing £14 5s. Mr. Gregory said he valued the present in itself, but what he valued far more was that hearty good-fellowship, that shoulder-to-shoulder assistance, which they had given him from the first day they had met in his house. He remembered that evening well. They had prepared six chairs, but soon they had to ransack the house to find more to accommodate all who attended, and then the room was not large enough, and they had to overflow into the hall. From that day to this they had shouldered him on, encouraging him,

and helping him in every way possible. He had had failings, but they had overlooked them, and he would tell them that as long as he had health and strength he would do his utmost for the society. What he had had in view was to gather the gardeners of Croydon together into a mutual social fellowship, not to compete for prizes—another society encouraged them in that—to rub shoulder to shoulder, and rub down some of the knotty points and make men better for their employers and better for themselves. (Applause.)

Mr. George Gordon (vice-chairman) proposed "The Horticultural Trades," for which toast Mr. P. F. Bunyard replied. Mr. W. J. Simpson proposed the health of the Chairman, Frank Lloyd, Esq., for presiding. Mr. Lloyd thanked those present for the kind reception they had given him. Mr. W. E. Humphries proposed the Vice-Chairman, eulogising the valuable services of Mr. George Gordon, V.M.H., for horticulture. Unfortunately Mr. Gordon had to leave before the toast was proposed, and during the evening other toasts and songs were given by Messrs. H. Packer, W. Philpott, A. Spearpoint, J. Phillips, J. G. Price, P. F. Bunyard (humorous sketch), E. Kromer, F. W. Simpson (violin), W. E. Carr, A. Maslen, E. Price, and C. A. Blogg. Mr. A. Morey was the accompanist.

Massachusetts Horticultural.

This society is almost as well known here in England as is our own "Royal," of London. The syllabus for the first quarter of 1902 is a very interesting one, and we print it here to give our readers a knowledge of the subjects treated: Jan. 11, "The History and Habits of the Brown-tail Moth. How to Make and Apply Insecticides," by A. H. Kirkland, M.S., Boston. Jan. 18, "The Horticultural Possibilities of New England," by Professor F. W. Rane, Agricultural Experiment Station, Durham, N.H. Jan. 25, "The Business End of Horticulture," by Patrick O'Mara, New York, N.Y. Feb. 8, "The Methods and Results of Soil Sterilisation," by Professor George E. Stone, Hatch Experiment Station, Amherst. Feb. 15, "The Fungous Diseases of Fruits," with Stereopticon illustrations, by Professor M. B. Waite, Department of Agriculture, Washington, D.C. Feb. 22 being a holiday there will be no lecture. March 8, "The Influence of American Expositions on the Outdoor Arts," by Warren H. Manning, Boston. March 15, "The Evolution of Vegetable Culture During the Last Forty Years," by Warren W. Rawson, Boston. March 22, "Birds Useful to Agriculture," by E. H. Forbush, Melrose. March 29, "Some Famous Gardens of the World," by Miss Helena T. Goessmann, Amherst. The first Saturday in each month is reserved for a business meeting of the society. The society holds six exhibitions during the year; thus there is a spring exhibition, another for Rhododendrons, later comes a Rose and Strawberry show, and in September an annual plant and flower show, October fruit and vegetable exhibition, and lastly a Chrysanthemum exhibition in November. All of the shows extend to two days and over, four of them being open also on the Sunday.

The Highgate and District Chrysanthemum.

The annual general meeting of the above society was held on Wednesday evening, the 22nd inst., the president, Mr. C. F. Cory-Wright, J.P., D.L., presiding, and was supported by a good attendance of members. The minutes of the last general meeting having been confirmed, the treasurer (Mr. J. McKerchar), submitted the financial statement for 1901, which showed the society in a solvent condition. The secretary (Mr. W. E. Boyce) read the annual report, and the balance sheet and report were adopted. The treasurer moved a vote of thanks to Mr. Cory-Wright for his services to the society, which was seconded by Mr. Bevan, and carried by acclamation. Mr. Cory-Wright, in responding, stated that in addition to the prizes he gave last year to the occupiers of the Hornsey District Council's Workmen's Dwellings, he would offer a silver cup. The election of officers then took place, and resulted as follows: President, the Right Hon. the Earl of Mansfield, proposed by Mr. Cory-Wright, who stated that Lord Mansfield had intimated his intention of attending the Alexandra Palace on October 29 to open the Society's Exhibition, and preside at the annual dinner of the society, to be held there the same evening; he would also give £20 towards the prize fund. Mr. J. McKerchar, Mr. W. E. Boyce, and Messrs. G. W. Smyth and G. Attkins were re-elected treasurer, secretary, and auditors respectively; and the following were elected to serve on the committee:—Messrs. Bevan, Witty, Turk, Taylor, Stonebridge, Saunders, Adams, Waller, Pannell, Bone, Mathews, Rundoll, Harris, Bass, Rand, Sedgwick, Woods, and Bignell. The secretary announced that the schedule of prizes was nearly completed for the committee to settle, and he had received numerous fresh special prizes, amongst which will be found—Mr. H. Burt, J.P., £10 10s.; Mr. Ronald, £3 3s. (for two classes of Grapes); Mr. E. P. Sells, £2 2s.; Mr. Bobby, £2 2s., for twelve Japanese incurved blooms; medals from Mr. H. J. Jones, Messrs. Wood and Son, and Mr. Wells, and other prizes from several trade firms. The meeting closed with a hearty vote of thanks to Mr. Cory-Wright for presiding.

National Carnation (Northern Section).

The annual general meeting of the Carnation Society was held at the Old Bull's Head, Manchester, on Saturday, January 25. Mr. Bentley presided over the meeting. All the officials were re-elected, and it was decided to hold this year's show in Manchester at a date to be fixed later on. The hon. secretary is Mr. W. Prescott, Murray Street, Great Ancoats, Manchester.

National Auricula (Northern Section).

The annual general meeting of the members was held in Manchester on Saturday last at the Old Bull's Head. Mr. Lord, of Todmorden, presided. The accounts showed a fair balance in hand. The meeting decided that the show date should be either April 25 or May 2, one of these dates to be finally chosen at the end of March by the votes of the members, and that the show should be held in Manchester. Mr. J. W. Bentley, Stakehill House, Castleton, Manchester, is the hon. secretary, to whom all inquiries should be made.

Cardiff Chrysanthemum.

The fifteenth annual general meeting of this society was held on Friday, January 24, when some thirty members and friends attended under the presidency of Mr. George Shewring. The balance sheet and committee's report was read and adopted. The annual show is fixed for November 5 and 6. The following officers were elected:—President, the Mayor; chairman of committee, Mr. J. Julian; vice-chairman, Mr. T. Malpass; secretary (re-elected), Mr. H. Gillett; hon. treasurer, Mr. H. B. Crouch; hon. auditors, Messrs. Medhurst and Boon; and a strong general and executive committee was appointed. An interesting presentation of an illuminated address was made to Mr. George W. Drake, the veteran Chrysanthemum grower, who captured for the society the N.C.S. trophy, the only occasion on which it has come to Wales. It is suggested that the Penarth Society be amalgamated with the Cardiff Society.—H. GILLETT, Secretary.

National Sweet Pea.

The annual meeting was held at Westminster on Tuesday last, when the following business was transacted: That Gilbert Beale, Esq., be asked to add his name to the list of vice-presidents in place of his late lamented father, and that a message of sympathy with his family be sent by the secretary of the society. That the Lord Mayor be approached with reference to becoming president. That all subscribers of not less than one guinea be elected vice-presidents—this sentence to be added to Rule V. That N. N. Sherwood, Esq., Houndsditch, be re-elected treasurer, and a message of sympathy with him in his present trouble, coupled with thanks for past services, be sent to him. (Mr. Sherwood, we may here observe, has been, and is, very ill.) That Geo. Gordon, Esq., be re-elected chairman of committees; also that Messrs. H. J. Wright and R. Dean be re-elected secretaries. The nineteen members of the last year's committee were re-elected en bloc, and three other names added, viz., Messrs. Whitpaine Nutting, W. Simpson (Sutton), and C. W. Greenwood (Clapham). N. N. Sherwood, Esq., was cordially thanked for having so kindly audited the balance-sheet. This we hope to refer to more fully. In the meantime, we may say that a balance of 12 guineas remains at the bank.

Shirley and Districts Gardeners and Amateurs.

At the monthly meeting of this society, held at the Parish Room, Shirley, on Monday evening, there was a good attendance of members to take part in the discussion introduced by Mr. J. Jones, The Gardens, Terrace House, Polygon, upon "The Culture of Vines." Mr. B. Ladhams presided. In opening the subject, Mr. Jones confined himself mainly to the question of the growth of the Vines by gardeners for the consumption of their employers, though, he said, tons of Grapes were grown under glass for market purposes, and sold in London at the present time in excellent condition at 1s. per lb. He very fully described the method of raising young plants from eyes, the making of borders, planting, watering and ventilation, tying, stopping, and thinning, &c. Red spider, mildew, thrip, and mealy bug he said should be dealt with on their first appearance. Scalding was, as a rule, caused by bad ventilation, but not always; beads of water on the glass have a lot to answer for by focussing the sun's rays on to the berries. It was humorously suggested that Sunday morning had something to do with it; the extra half hour in bed which many a gardener had would have been time better spent in the vineries. Inside and outside borders were discussed. Manure: Mr. Jones said he used some good fertilisers two or three times during the season in preference to farmyard dung. Last but not least touched upon was the watering of the borders. When Vines were watered in the autumn he did not give them any again till the time of flowering.

At the close of the discussion, in which Messrs. Vardon, Knapp, Ladhams, Miles, Wright, &c., took part, Mr. Jones was thanked for opening such a useful subject. Mr. Bushell gained first prize for four pots of Primulas, and Mr. J. Biggs second prize; Mr. F. Snelgrove first-class certificate for three pots of Euphorbia. Vote of thanks to chairman closed the meeting.—J. M.

Liverpool Horticultural.

The twenty-third annual general meeting of the above was held in the Secretary's offices, Victoria Street, on Saturday, Mr. T. Foster presiding over a very good audience, considering the inclement state of the weather. The minutes having been read, the election of officers was proceeded with, the Right Hon. Alderman Charles Petrie, Lord Mayor, was unanimously elected president for the year; Messrs. Fletcher Rogers and G. Blackmore, hon. treasurer and sub-treasurer respectively; Mr. Harold Sadler, the well-known accountant, as secretary; and the following new committeemen, viz.:—Messrs. G. Eaton, J. Skitt, John Soney, and T. Hitchman. On the spring show there was a loss of £139 17s. 6d., and the autumn £93 12s. 7d., this being in a measure due to the heavy expense of hiring the splendid St. George's Hall, than which no more suitable place could possibly be found. The subscriptions, on which the association mainly relies, amounted to £356 13s. 7d., the balance in hand being £208 2s. 9d., a capital state of affairs from that of several years ago. Sums of three and two guineas were respectively voted to the Gardeners' Royal Benevolent and Gardeners' Orphan funds. The committee have decided to hold a spring and autumn show, the dates of which will be shortly announced. The usual votes terminated a most pleasant meeting.—R. P. R.

An Observer's Notes.

Under this heading there are many short interesting notes our readers might send.

JANUARY 31-FEBRUARY 6. PLANTS DEDICATED TO EACH DAY.

Fri. 31	Pied Wagtail first seen.	Bay Tree.
Sat. 1	Tawny owl hoots.	Snowdrop.
Sun. 2	Field Speedwell flowers.	Great Water Moss.
Mon. 3	Elder leaves open.	Common Goldylocks.
Tu. 4	Golden Plover goes.	Common Primrose.
Wed. 5	Corylopsis flowers.	Blue Hyacinth.
Thrs. 6	White Pyrus in bloom.	Round-leaved Cyclamen.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1902.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
January.										
Sunday ...19	N.W.	deg. 28.0	deg. 27.5	deg. 46.1	deg. 24.4	Ins. —	deg. 38.0	deg. 42.0	deg. 45.0	deg. 19.6
Monday ...20	W.S.W.	46.1	42.5	49.9	27.8	—	37.9	41.3	44.8	27.0
Tuesday...21	W.S.W.	46.1	44.5	51.4	45.5	—	41.1	41.6	44.7	40.5
Wed'sday 22	S.W.	48.2	46.5	52.1	46.0	—	42.9	42.5	44.7	42.0
Thursday 23	S.E.	42.1	41.7	48.1	40.3	—	43.9	43.3	44.7	31.2
Friday ...24	S.S.W.	42.1	39.9	47.3	41.7	0.12	43.6	43.9	44.9	29.5
Saturday 25	S.W.	32.0	31.0	39.8	31.3	—	41.1	43.7	44.9	25.3
MEANS ...		40.7	39.1	47.8	36.7	Total. 0.12	41.2	42.6	44.8	32.2

Another week of dull mild weather, with frost on several morning.

Cheap Bulbs.

Bulbs of *Narcissus Barri* conspicuous, *bicolor grandis*, *poeticus*, *Polyanthus* varieties; *incomparabilis Beauty*, *incomparabilis stella superba*, and *Golden Spur*, are selling at from 20s. to 25s. per hundred in shops. The mixed Daffodils, for naturalisation in the grass, are offered at the lower price. *Iris Susiana* is offered at 4d. a root; *Arum Eggeri*, with crimson-purple spathe and velvety, dark maroon spadix for spring flowering, 1s. 3d. each or 12s. per dozen, and there are *Chionodoxa sardensis*, *Galanthus* (common); Tulips, Squills, and *Leucojum aestivum* being sent out, and which in a few weeks will be transforming some hitherto unattractive spot into a region of floral charm.



Fruit Forcing.

HOUSES TO AFFORD RIPE GRAPES IN JULY.—Start the Vines at the beginning of February. There is no need to cover the outside border with fermenting materials, but there is absolute necessity for applying a covering of leaves or litter so as to prevent the ground being frozen. If the Vines are planted outside, see that the stems are well protected by haybands, for if these become frozen after the Vines have started into growth, it is certain they will receive a severe check and the crop be lost. Syringe the rods three times a day maintaining a temperature of 50deg at night and 65deg by day, with sun heat. Supply inside borders with tepid water or liquid manure, and repeat as necessary, so as to bring the soil into a thoroughly moist condition, but not making it sodden and sour.

PEACHES AND NECTARINES—EARLIEST FORCED TREES.—A good set of fruit often attends the mere shaking of the trellis or trees. It is desirable, however, to fertilise the blossoms as they expand and the pollen becomes ripe, distributing it over the stigmas with a camel-hair brush, feather, or rabbit tail mounted on a stick. Syringing may be resorted to both morning and afternoon, when the fruit is set and swelling, and the weather bright; but in dull periods damping the floors and borders will be sufficient, and the afternoon syringing should take place early, to allow the foliage to become fairly dry before night-fall. This is important, for excessive moisture encourages soft woody growths, weakens the tissues, and interrupts the elaboration and assimilation of the juices, which are essential to the development of the fruit and the sound construction of the wood. The water used for damping and syringing must be of the same temperature as the house, also that supplied to the roots. Avoid a sodden condition of the soil, which frequently induces the casting of the fruit, and the growth of long-jointed useless wood. Disbudding must be done very carefully at this early season, removing a few growths from a tree at a time, and continuing the process daily. This is preferable to removing shoots in quantity at distant intervals, as it gives a check to the roots, interferes with the diffusion of the nutrient matter, and promotes wood growth at the expense of the fruit. The night temperature will need to be maintained at 55deg, to insure steady progress, or even 60deg on mild nights may be allowed, while on cold it may fall to 50deg, for safety is on the side of the low degree, 60deg to 65deg by day artificially, 5deg less on these figures when the weather is severe and dull. Vent late early, admitting air at 65deg, not allowing an advance over 70deg without free or full ventilation, closing at 65deg, always excepting a small opening at the top of the house constantly. This prevents a stagnant atmosphere, secures a healthy condition in the foliage, and it is enabled to act fully in the presence of light.

SECOND EARLY HOUSE.—This is the first in most establishments, and being started at the new year, the trees are expanding their flowers, being singularly free from aphides. Great care must be exercised in fumigating with tobacco, or even vaporising with nicotine, as the organs of fructification are easily destroyed, therefore fumigation on two or three consecutive evenings moderately must be had recourse to if necessary, in order to keep the insects in check, but vaporising is the safest process. Solutions sometimes injure the blossoms, and ought, as a rule, to be avoided, but quassia extract, duly diluted, may be used quite safely. With an excess of blossom buds the trees may fail to set the fruit well, but by removing those on the under side of the shoots the remainder are correspondingly invigorated, and the setting usually satisfactory. Syringing is best discontinued from the time the buds show colour and until the fruit is set, but the house may be sprinkled in the morning and afternoon, which will afford quite enough moisture for steady progress, a stagnant atmosphere being avoided by leaving a little air on constantly at the top of the house and increasing the ventilation from 50deg, which should be the minimum day temperature, and 65deg the maximum from sun heat, with full ventilation. Regard, however, must be had to cold air, it not being advisable to admit too much, but vary the ventilation according to external conditions. Inside borders should be thoroughly moistened to the drainage, avoiding needless watering.

TREES TO AFFORD FRUIT IN JULY.—The house should be closed at the beginning of February, when such varieties as Dymond, Royal George, Grosse Mignonne, Noblesse, and Bellegarde Peaches, with Stanwick Elruge, Humboldt, Dryden, and Pineapple Nectarines, will give a supply of the choicest fruit, while the earlier varieties, if any are grown, will come in about

three weeks earlier. The very early varieties, however, are not worth growing beside these midseason sorts, but the second early, such as Hale's Early, A Bec, Dr. Hogg, and Rivers' Early York Peaches, with Rivers' Early, Goldoni, and Lord Napier Nectarines, are excellent for preceding the midseason varieties. The trees should be syringed in the morning and afternoon during bright weather, occasionally only in dull, and the border must be brought into a thoroughly moist condition. Employ fire heat to raise and maintain the temperature at 50deg by day, above which ventilate freely, and allow to fall to 45deg or 40deg at night.

SUCCESSION AND LATE HOUSES.—Finish pruning the trees at once, dressing them with an insecticide, after washing with softsoapy water, 3oz or 4oz to a gallon, taking care not to dislocate the buds, not using the dressing at winter strength after the buds are advancing in swelling, but employ a weaker solution, and applying with a syringe. Secure the trees to the trellis, allowing space for the swelling of the branches, and leave room between them for laying in young wood for future bearing. Loosen the surface of the border lightly, not disturbing the roots materially, removing any loose soil or old mulching, and supplying fresh loam, with a dressing of bone superphosphate three parts, sulphate of potash two parts, and one part sulphate of lime, mixed, applying a good handful per square yard—the waterings will wash it in fast enough. If the borders are at all dry, afford a thorough watering.—ST. ALBANS.

The Kitchen Garden.

EARLY POTATOES.—On a sheltered south border, having light, well-drained soil, a batch of early Potatoes may be planted. The rows should be 2ft apart, and the sets placed a foot asunder, about 6in deep. The best sorts for the purpose are the Ashleaf varieties, and Ringleader, Harbinger, and Sharpe's Victor. This planting will follow the crop of frame-grown Potatoes, but attention must be given to protect the growth after it has appeared above ground. Those varieties which are to be grown in frames on slight hotbeds ought also to be planted now. Leaves and manure well mixed and placed together in a heap, rather wider all round than a frame, and 4ft high, will form a good bed, using 9in of soil on the top. The Ashleaf varieties are admirably suited for frame culture, and if the tubers can be sprouted previously to planting, progress in growth will be rapid. Medium sized tubers are the best to plant, and if sprouted, rub off all the weakly shoots, retaining only one bold, short-jointed growth to each. Throw mats over the frame in frosty weather.

SPROUTING POTATOES FOR LATE PLANTING.—Tubers that are encouraged to produce short-jointed purple shoots must necessarily be planted later outdoors than dormant tubers. This, however, is a suitable time to select the tubers, placing them on end in shallow boxes, and arranging in a cool, light position, to produce the growths slowly. They will be ready for planting in April, and may then need some protection from light spring frosts as the growths push through the soil.

DIVIDING AND REPLANTING RHUBARB.—From the present time until growths push from the crowns is a suitable time to make fresh plantations of Rhubarb. Divisions with two or three eyes or crowns are adapted for planting. The ground cannot be too deeply dug or too freely manured, as Rhubarb is a gross feeding subject and pays for liberal treatment. Roots that have been forced ought not to be employed for forming a new plantation, unless a season or two can be given to them to recuperate. Plant the divisions 3ft apart each way, the crowns being just level with the surface.

PLANTING SHALLOTS.—When the ground is moderately dry on the surface, and can be made tolerably firm, Shallots may be planted. Draw shallow drills 1ft apart, and plant the cloves in them 9in asunder. Simply press them firmly into the ground so as to keep them in position until roots are emitted from the base.

TOMATOES.—Seedling plants from an early sowing growing in a warm house must be potted singly, or, if very small, placed round the edges of 3in pots. In either case, sink the stems to the seed leaf, as roots will be emitted from the stem, and thus strengthen the plants. A position on a shelf near the glass must be afforded them. Further sowings may be made, as the seedlings will grow more readily and strongly with the increased light and adequate heat. Earliest of All is a good variety for the first crops, following with such sorts as Duke of York and Frogmore Selected. Perfection and Ham Green Favourite are good main-cropping varieties.

CABBAGE.—Any plants remaining in the seed beds may be planted out to enlarge the existing plantation of young plants, or to fill up vacancies which have occurred during the winter. As soon as the surface soil is dry and workable, the Dutch hoe should be run among the plants. All those that are found to be loose round the stems ought to be made firm.

MUSTARD AND CRESS.—Salad being frequently in demand, it is desirable to sow Mustard and Cress frequently in a warm structure. Fill boxes with light soil, water, and sow the seed on the surface. A brisk heat brings it on quickly into use.—LYMINGTON, HANTS.

Covent Garden Market.—January 29th.

Average Wholesale Prices.—Plants in Pots.

st of the undermentioned plants are sold in 48 and 32-sized pots.

	s. d.	s. d.		s. d.	s. d.
Aralias, doz. ...	5 0	to 12 0	Ferns, small, 100...	10 0	to 16 0
Araucaria, doz. ...	12 0	30 0	Ficus elastica, doz. ...	9 0	12 0
Aspidistra, doz. ...	18 0	36 0	Foliage plants, var, each	1 0	5 0
Azaleas, white and			Grevilleas, 48's, doz. ...	4 0	5 0
coloured, doz. ...	30 0	36 0	Lycopodiums, doz. ...	3 0	0 0
Begonias, Gloire de L.,			Marguerite Daisy, doz. ...	8 0	10 0
per doz. ...	9 0	10 0	Myrtles, doz. ...	6 0	9 0
Crotons, doz. ...	18 0	30 0	Palms, in var., doz. ...	15 0	30 6
Cyclamen, doz. ...	9 0	10 0	specimens ...	21 0	63 0
Cyperus alternifolius			Pandanus Veitchi, 48's,		
per doz. ...	4 0	5 0	doz. ...	24 0	30 0
Dracæna, var., doz. ...	12 0	30 0	Primulas ...	3 0	4 0
Dracæna, viridis, doz. ...	9 0	18 0	Shrubs, in pots ...	4 0	6 0
hyemalis ...	9 0	10 0	Solanums ...	8 0	10 0
alba... ..	10 0	12 0	Spiræa japonica, 48's,		
Ferns, var, doz. ...	4 0	18 0	doz. ...	10 0	12 0

Average Wholesale Prices.—Cut Flowers

	s. d.	s. d.		s. d.	s. d.
Acacia "mimosa," pad	6 0	to 8 0	Lilium l. rubrum ...	2 0	to 2 6
Anemone, double pink,			Lilium longiflorum ...	3 0	4 0
per doz. ...	1 6	2 0	Lily of the Valley, 12		
Arums, doz. ...	2 0	3 0	bunches ...	6 0	12 0
Asparagus, Fern, bunch.	1 0	2 0	Maidenhair Fern, doz.		
Azalea mollis, per bun.	1 0	0 0	bunches. ...	6 0	8 0
Bouvardia, white,			Marguerites, white,		
doz. bunches... ..	6 0	8 0	doz. bunches. ...	2 0	4 0
Bouvardia, coloured,			yellow, doz. bunches.	2 0	0 0
doz. bunches... ..	6 0	8 0	Myrtle, English, per		
Camellias, white... ..	1 6	2 0	bun. ...	0 6	0 0
Carnations, 12 blooms	1 3	1 9	Narcissus, paper white,		
Cattleyas, doz. ...	0 0	12 0	doz. bunches... ..	2 0	2 6
Chrysanthemums,			Soleil d'Or ...	2 6	3 0
specimen blooms,			double Roman ...	1 6	2 0
doz. ...	1 0	4 0	Odontoglossums ...	4 0	0 0
Croton foliage, bun. ...	0 9	1 0	Orange blossom, bun.	2 0	3 0
Cycas leaves, each ...	0 9	1 6	Primula, double white,		
Cypripediums, doz. ...	2 0	0 0	doz. bunches... ..	6 0	8 0
Daffodils, single, doz. ...	5 0	8 0	Roses, Niphetos, white,		
double, ...	4 0	6 0	doz. ...	2 0	3 0
Eucharis, doz. ...	2 0	3 0	pink, doz. ...	4 0	6 0
Freesias, doz. bunches	2 0	3 0	yellow, doz. (Perles)	2 0	3 0
Gardenias, doz. ...	6 0	0 0	Smilax, bunch ...	3 0	4 0
Geranium, scarlet, doz.			Tuberose, gross ...	8 0	0 0
bunches. ...	4 0	6 0	Tulips, white, single,		
Hyacinth, Roman,			doz. bun. ...	9 0	12 0
doz. bunches... ..	7 0	8 0	coloured, doz.		
Ivy leaves, doz. bun. ...	1 6	0 0	bun. ...	9 0	12 0
Lilac, French, white,			scarlet, single,		
per bun. ...	4 0	4 6	doz. bun. ...	4 0	5 0
Lilium Harrisii ...	4 0	5 0	Violets, single, doz ...	1 6	0 0
Lilium lancifolium alb.	2 0	2 6	double, doz. ...	3 0	4 0

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, cooking, bush.	8 0	to 10 0	Grapes, Alicante, lb. ...	1 6	to 2 0
Newtowns,			Colman ...	1 6	2 0
case ...	10 0	0 0	Muscate ...	0 0	5 0
Bananas ...	8 0	12 0	Almeria ...	0 6	0 8
Cranberries, 30 to 36 qt.			Oranges, per case ...	10 0	25 0
consignment ...	9 0	10 0	Pears, French, crate ...	12 0	0 0
Dates, red V., doz. bxs.	5 6	0 0	Pines, St. Michael's,		
Lemons, Messina, case	12 0	16 0	each ...	2 6	3 6

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	2 0	to 3 0	Lettuce, Cabbage, doz.	1 3	to 2 0
Jerusalem, sieve	1 6	0 0	Mushrooms, forced, lb.	0 6	0 8
Batavia, doz. ...	2 0	0 0	Mustard & Cress, doz.	1 6	0 0
Beans, French, per lb.	2 0	0 0	Parsley, doz. bunches. ...	2 0	3 0
Beet, red, doz. ...	0 6	0 0	Potatoes, English, cwt.	4 0	5 0
Brussels Sprouts, ½ sieve	2 0	3 0	Radishes, doz. ...	1 6	0 0
Cabbages, tally ...	1 6	3 0	long, doz. ...	0 9	0 10
Carrots, doz. bunch.	2 0	2 6	Seakale ...	0 9	1 0
Cauliflowers, doz. ...	2 0	3 0	Shallots, lb. ...	0 2	0 3
Corn Salad, strike ...	1 0	1 3	Spinach, bush. ...	2 0	3 0
Cucumbers, doz. ...	10 0	15 0	Sprue, French, doz. bn.	8 0	9 0
Endive, doz. ...	1 0	1 3	Tomatoes, Teneriffe		
Herbs, bunch ...	0 2	0 0	consignment ...	6 0	0 0
Horseradish, bunch ...	1 6	0 0	Turnips, doz. bunch. ...	2 0	3 0
Leeks, bunch ...	0 1½	2 0	Watercress, doz. ...	0 6	0 0

Physical Changes in Alaska.

The glaciers of Alaska, while advancing in winter and receding in summer, are on the whole receding. Thus in the case of the Muir glacier a recession of two miles has taken place in the last twenty years, with a reduction of surface level of 300ft. It is said that the surface of the great ice lake known as the Melaspina glacier is covered in places with soil and supports a rank growth of vegetation, where are to be found flowers and forests growing above the ice.



TO CORRESPONDENTS

* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

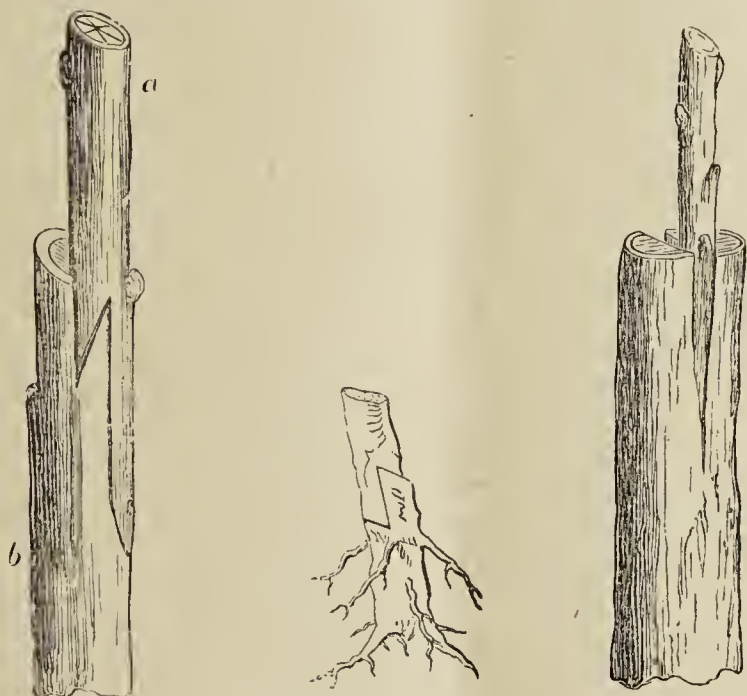
OLD MULBERRY TREE NOT FRUITING (J. D.).—This is rather uncommon, as old trees usually fruit freely; but as the tree shows plenty of flowers we conclude there is something defective in the nutrition. We should give the ground, from the stem of the tree outwards to a foot beyond the spread of the branches, a top-dressing of the following fertiliser: Superphosphate of lime, 3 parts; double sulphate of potash and magnesia, 2 parts; sulphate of lime, 1 part; mixed, applying 4oz of the mixture per square yard, and pointing in very lightly, merely scratching the surface or loosening it with a fork suffices, for the rains will wash it in fast enough. Where the walk is you may make holes with a fork to let the fertiliser in; at any rate, loosen the surface, and on the border a mulch may be given with advantage of short manure, not applying more than an inch or a little more thick.

ARRANGING TREES AND SHRUBS IN BORDERS AROUND A BOWLING GREEN (W. C.).—We cannot undertake to give a plan showing the arrangement of the trees and shrubs given in your list, as this is incompatible with our long and approved practice of making suggestions on arrangements submitted for criticism. You asked for an idea of planting the borders, and a lengthened reply was given in our issue of December 26, 1901, page 588, from which there should not be any difficulty in arranging the trees and shrubs you now name, and submit sketch plan as guide for one of words. This entails an expenditure of time which only one acquainted with the work can devote to it for special remuneration; hence we advise you to write to Mr. Geo. Abbey, at St. Albans. If you give a plan we shall be pleased to offer suggestions. A man would plant the trees and shrubs in about four days but it requires two men, or at least a man and a boy, to plant trees properly, and they would do it in less time and much better. A man will prepare and plant about 50yds of Box edging per day, or, if a good hand, and the ground does not need much levelling, plant the edging in three days or less.

TREATMENT OF LILIUM AURATUM AND L. SPECIOSUM (LANCIFOLIUM) OUTDOORS (J. H. S.).—"I shall be very glad if you will give me information as to the right treatment of bulbs of Lilium auratum and Lilium lancifolium. The former have been in the bed in which they are now planted for two summers, the latter one summer. The auratum flowered well last summer, but the lancifolium were somewhat disappointing. They were planted in good soil dug to a depth of 3ft, and plenty of manure and leaf mould added. They were watered constantly during the summer, but did not grow more than 2ft high, and did not by any means all flower; and the foliage was an unhealthy yellow. The bed is very well shaded, but only gets the sun in the morning. Ought I to take up the bulbs of these two Liliums, or leave them in?"

It is not advisable to take up the bulbs, but leave them in the ground from year to year, as the taking up and drying is a very weakening process, hence should only be had recourse to when the bulbs become too crowded in the clumps, then lifting and replanting with as little delay as possible directly the growths have become matured. With a mulch of partially decayed leaves, or, preferably, cocoa-nut fibre refuse, on the bed, the bulbs are perfectly safe from frost, the material being placed on from 4in to 6in deep in early winter, and in spring take off or reduce to about an inch thickness, this remaining during the summer. The L. speciosum (lancifolium) are probably overdone with too rich soil, manure and leaf mould being added to the good soil dug to a depth of 3ft too plentifully, thus settling into a close mass, and becoming more or less sodden and sour, there not being sufficient gritty material to keep the soil open and admit of water and air entering, percolating through, and passing away freely. This, we consider, is all the defect, the bulbs not rooting freely enough to secure a strong growth, in which case the bulbs should be lifted, about one-third of opening material added (such as brick and mortar rubbish), freed from pieces of wood, and a good sprinkling of charcoal, replanting as soon as possible. The shaded position is not good for these Liliums, though, if not overhung by trees, would be an advantage in prolonging the flowering.

ROSE GRAFTING (A. Thomson, Redlands).—Mr. Foster-Melliar so aptly says all that we might have tried to say ourselves on the subject about which you write that we will just quote his lines from his fine "Book of the Rose." Thus: "This mode of working the Rose upon another stock is so inferior to budding in many ways that it only survives because, with the aid of heated houses, it can be practised in the winter. Anyone who has the proper appliances, can thus increase his stock of any particular variety manifold in the middle of winter, and thus multiply the number of buds he will be able to use when the outdoor stocks are ready. It is in this way that new Roses are so quickly propagated, but of course any other variety which has become scarce can be increased in the same manner. Healthy young stocks, not too large, should be established the year before for the purpose. They may be Manetti or Briar cuttings, but the Manetti is best, from its ready rooting power, and its susceptibility and readiness to grow when exposed to heat. The operation is generally performed in January. . . . All available shoots of the Rose should be cut off and stuck into the ground somewhere where they will not be injured by frost or excited by heat, but kept in the winter sleep. The stocks, however, should be just a little 'forwarder,' by having been brought into the



ROSE GRAFTING.

house a short time before, not actually started, but ready to grow at once on the application of heat." We furnish three figures for further help, that on the left showing the whip grafts, and the other two the wedge graft, which forms are most convenient. The part marked *b*, is a portion of the stock; *a*, is a well-ripened Rose shoot. Sometimes moss or clay is bound on over the raffia ligatures. If the scion or graft fits evenly to one side of the stock—that is, inner bark to inner bark—this is all that is required. The plants are, after this, placed in bottom heat in a frame which excludes the air, or in a small pit, whichever one may have.

MUSHROOM BEDS OUTDOORS NOT BEARING IN WINTER (G. F. O. B.).—The only way we can suggest is to make the beds up earlier, say in September, and then they would come into bearing about December, extra covering being necessary to maintain the temperature or exclude the cold, and even then severe weather would materially affect the produce of the beds or retard the bearing. Indeed, the weather is the great factor, though Mushrooms evolve heat and thus help production in cold periods. No doubt the manure collected in late summer, autumn, and winter is the best, and unless you can procure suitable material it would be preferable to wait until your usual time of making up the beds. This is consonant with your experience, your output of 9,686lb of Mushrooms off 300yds of beds, though they all came on about February and lasted till end of June from beds made up from October till end of January. We advise you to adhere to the practice you have found successful.

BANKING UP ASPARAGUS (Idem).—As your plants have the crowns about 3in or 4in below surface, and your salesman advises you not to blanch but grow it naturally, it will not be necessary to bank up the beds, as the heads may be cut without damage to the crowns when gathering, especially if the soil is cleared away partially with the knife and, after cutting, replaced. If you bank up you must do this, it not being possible to cut blanched heads satisfactorily without removing the soil to some extent. For that purpose the banking up should not exceed 8in, for it is necessary that the heads have some edible part or green or purple, this being 2in or 3in in length. We should not cover the crowns more than 6in with fine soil, and this will give you cutting space without danger of damaging the crowns.

SPOTTED LEAVES OF ORCHIDS (J. B. C., Subscriber).—The spot on the leaf of *Lælia anceps* is caused by a fungus, which by its mycelial hyphae destroys the tissues, and forms brown or black spots in irregular circles seated on a pale patch on the leaf resembling fairy-rings, the paleness indicating the presence of the mycelium in the living or invaded tissues, and is due to the abstraction of the chlorophyll, or green colouring substance of the leaf, and the consequent collapse of the cells infected, causing them to shrink and thus have a depressed appearance. There are no "fruits," hence we cannot determine the fungus, though it accords with *Heterosporium gracile* in the form and localisation of the mycelium. The spots on the leaf of *Dendrobium Phalaenopsis Schröderianum* appear to be produced by the same parasitic fungus, and even accords more with the species of *Heterosporium* named by its large, long, up to $\frac{1}{2}$ in, diseased spots. It is probably an infectious disease, and may be prevented from spreading by spraying or sponging the spots with ammoniacal copper carbonate solution, made as follows: Mix $\frac{1}{2}$ oz carbonate of copper and $1\frac{1}{2}$ oz carbonate of ammonia, and dissolve it in about half a pint of hot water. When thoroughly dissolved add 4 gallons of cold water. Treating the spots with methylated spirit has also been found useful. The fungus is probably favoured by a chill, such as is occasioned by a moist warm period followed by a sudden lowering of temperature. Keep the foliage as free from moisture as possible, securing good ventilation, and avoid watering the leaves.

NAMES OF PLANTS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (R.).—1. *Hedera Helix pallida*; 2. *H. H. triloba*, a commonly cultivated variety; 3. *H. H. chrysophylla*. (A. B. R.).—1. *Ipomæa Horsfalliae*; 2. *Ruellia macrantha* (not a "new" plant); 3. *Psilotum triquetrum*, peculiar from the fact that it has no true roots. (A. N.).—The typical Witch (or Wych) Hazel—*Hamamelis arborea*, a pretty shrub. (J. F. M.).—1. *Pinus Bungeana*; 2. *Pinus montana*; 3. *Pinus ponderosa*; 4. *Pinus excelsa*; 5. *Pinus Laricio austriaca*; 6. *Pinus insignis*. The Bamboos are—1. *Arundinaria japonica* (A. Metake), and 2. *Bambusa palmata*.

NAMES OF FRUIT.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (Devonshire).—1. Rosemary Russet; 2. Credenhill Pippin.

Trade Catalogues Received.

- James Cocker & Sons, 130, Union Street, Aberdeen.—*Seeds, Bedding Plants, Florists' Flowers.*
 B. R. Davis & Sons, The Yeovil Nurseries, Yeovil, Somerset.—*Begonias, 1902.*
 Dickson's & Co., 1, Waterloo Place, Edinburgh.—*Seeds.*
 W. Fromow & Sons, Sutton Court Nurseries, Chiswick, London, W.—*Seeds.*
 Julius Heurlin, Blue Hill Nurseries, South Braintree, Mass, U.S.A.—*Herbaceous Perennials and Alpine Plants.*
 Hudson's Seed Depôt 34, High Road, Chiswick.—*Seeds.*
 Irish Agricultural Wholesale Society, Ltd., 151, Thomas Street, Dublin.—*Seeds.*
 Ant. Roozen & Sons, Overveen, Haarlem (British agents: Mertens and Co., 3, Cross Lane, St. Mary-at-Hill, London, E.C.).—*Catalogue of Seeds and Bulbs for 1902.*
 Benjamin Soddy, 243, Walworth Road, London, S.E.—*Seeds, Bulbs, and Plants.*
 Vilmorin, Andrieux & Co., 4, Quai de la Mégisserie, Paris.—*Seeds.*



American Agricultural Notions.

Through the kindness of a friend we have been fortunate enough to inspect the Year Book of the United States Department of Agriculture for 1900.

This work annually finds its way into the homes of 500,000 farmers in the States, but we believe that English people may find great difficulty in procuring a copy, a very few only being sent to officials of our most prominent agricultural societies. It is a most remarkable volume, extending to nearly 900 pages, and being illustrated with eighty-seven

plates, nine of them coloured. The points which are most forcibly impressed upon us are the enormous magnitude and variety of the pursuit of husbandry across the Atlantic, and the close interest shown in it by the United States Government, as evidenced by the publication of such an exhaustive work as the Year Book. The contents comprise ninety headings or subjects, and include papers on "Fig Culture," "Forestry," "Pear Culture," "Date Palms," "Practical Irrigation," "Successful Wheat Growing in Semi-arid Districts," "Road Making," "Commercial Varieties of Vegetables," "The Use and Abuse of Food Preservatives," &c., &c., and every kind of statistic which the imagination can possibly connect with agriculture. The food preservative question is one which most nearly touches us British farmers, for there can be little doubt that the extended use of preservatives has done much to aggravate the foreign competition from which we suffer.

The paper on this subject by Mr. W. D. Bigelow, a Government chemist, is remarkable for several statements which are well worthy of reproduction. He urges strongly, in the first instance, that no preservative should be sold except in bags or cases marked with the exact constituents which it contains, and that certain substances should be proscribed altogether. Those which he condemns are "Formaldehyde," salicylic acid and sulphites. Borax and benzoic acid, he contends, should only be used with food which is so marked as to inform the purchaser of their presence. Considering the very prevalent use of salicylic acid in this country, Mr. Bigelow's opinion of it is worth quoting:—"Since 1880 the mass of the evidence resulting from physiological studies with salicylic acid tends to condemn the addition of this substance to food under all circumstances. It is possible that the majority of persons in sound health may suffer no evident injury from small amounts of salicylic acid, but its use by aged and infirm persons is attended with great danger." Again, with regard to boric acid, he says:—"Both boric acid and borax are now extensively employed for the preservation of meat, fish and dairy products. According to the directions of dealers in food preservatives, chopped meat and sausage are to receive an addition of from 1oz to 4oz of boric acid to each 100lb of meat, while to each 15 gallons of milk and each 30lb of butter may be added about an ounce of boric acid. The medicinal dose of boric acid is from 5 to 15 grains for an adult. An infant who is fed each day with a quart of milk treated thus, will receive 8 grains, or a fair dose for an adult." When will farmers stir themselves to prevent unfair competition, bolstered up by the use of such substances as these?

In connection with his advocacy of the sufficient marking of these preservatives, Mr. Bigelow makes the following very interesting statement:—"The States which use large amounts of commercial fertilizers have found it necessary to enact laws requiring that fertilizers be sold only in bags on which the composition of the contents is marked. Such legislation has been found equally advantageous to consumers and reliable manufacturers, and has changed a business in which honesty once seemed impossible into one in which misrepresentation and deceit are relatively rare. Such laws work no hardship to anyone. They encourage trade, and restrict fraud. They receive practically the unanimous support of all reputable citizens who have opportunity to observe their working." Legislators who are anxious to benefit agriculture might take a useful hint from the above quotation. The artificial manure trade of this country is vastly improved on what it used to be, but there is abundant room for further advance. If Messrs. A or Mr. B like to sell a special manure with a fancy name, let them call it what they like, but on each bag should be marked the percentages of nitrogen, phosphate, and potash which it contains.* We get many good notions from America, and think this one of the best. Altogether this book, which is issued gratis by a benevolent Government to half a million farmers, is a marvel of completeness, and though, as we said before, a copy is anything but easy to obtain, we think that British farmers with a thirst for information will find satisfaction in it when possession is attained.

We cannot help comparing it with its English counterpart, the Journal of the Royal Agricultural Society, which, excellent and useful as it is, cannot be compared with the

other in comprehensiveness, and, unaided by the State, only reaches those who see in it money's worth in exchange for half-a-guinea. When will the Royal Agricultural Society become really national? The machinery is there, why cannot the State work it?

Potatoes as Food for Stock.

Notwithstanding that we have been exporting considerable quantities of Potatoes to America, there is no life in the trade on this side, and it is every day becoming more evident that a market cannot be found for the whole of the home supply. The latest reports state that the trade in New York is much depressed, so that even that outlet may fail us. When markets are glutted, low-class qualities are naturally neglected, and at the present time quantities of sound Potatoes are not bringing more than 25s. or 30s. per ton to the producer's pocket. The latter will be much to blame if he continues to sell at such a price. Every farmer knows the usefulness of Potatoes as food for pigs, but hundreds who have but recently taken up the cultivation of the tuber are quite unaware of its value as food for cattle. At the present time, with hay and straw almost approaching prohibitive prices, and good sound Turnips very scarce, the plethora of Potatoes, intelligently used, may with much greater advantage be consumed than sold. It is very generally supposed that there is danger in feeding uncooked Potatoes to cattle, but this is quite a mistake, the only danger lying in their too free use before the stomachs of the animals have become inured to them. Many cattle are slow in taking to them, and if a moderate quantity be given to a dozen or more beasts, and only one or two take an early liking to them, there will be great danger of colic to those individual beasts, for they may get a much greater quantity than was ever intended for them. At first every care must be taken that no beast gets more than 14lb per day, but this quantity may be rapidly but gradually extended to 60lb or 80lb. Needless to say the Potatoes must always be well washed, and we should not use them for animals under fourteen or fifteen months of age. There is as much feeding matter in 3lb of Potatoes as in 1lb of mixed grain food.

Work on the Home Farm.

We are doing a little ploughing, but although the week has been fairly dry, with slight frosts, there is still a great deal of moisture near the surface, and land which has been previously moved is better let alone for the present. To-day we have seen a solitary plough at work on strong land stubble, a boy, basket in hand, following the plough to gather up twitch practically by the heels. There was little twitch in the land, and we could not but applaud the idea to pull out any clumps there might be. But surely the whole operation was somewhat belated. Had the ploughing been done before, there has been sufficient frost recently to pulverise a moderate plough depth, whereas we may have little more, and the experience of recent seasons certainly does not give much encouragement to the contrary.

The one thing we can proceed with is Turnip land ploughing; the surface has dried nicely, and carries the horses well. We use the chilled plough for this purpose. A pair of horses will turn over a 10in to 12in furrow 5in deep with ease. Using a wide share, the whole ground is cut and no Thistles missed, which is a point in a Thistle country; the soil, too, is well turned, and left light. No doubt the two and three furrow shallow working ploughs so much in vogue may appear economical, but we doubt their superiority to the chilled plough for the above purpose.

Wheat looks fairly well, some very well, but there are signs of wireworm. The crop generally is nothing nearly so forward as last year at this time, and we think the prospect all the better for it; but there is strong necessity for using the roller at the earliest opportunity. With a continuance of fine weather, rolling Wheat might be possible early in February. When that opportunity comes we must also not neglect the use of the harrow. We have already detected the presence of a great number of seedling weeds in first leaf, which may easily be destroyed if attacked at once.

We have seen several fields of winter Beans, which look wonderfully well, but they also are rather choked with young twitch and weeds. The horse hoc will do infinite good here as soon as it can be used, whilst a dressing of superphosphate and muriate of potash would help to bring to perfection a promising and profitable crop.

Lambs are becoming quite an everyday sight. We saw four ewes with their lambs grazing the lawn in front of a farmhouse the other day. With a shrubbery on each side, and open to the south, it made a beautifully warm nook. The flower beds appeared to be empty; perhaps the sheep had cleared them of their contents. That farmer evidently does not believe much in gardening, and probably never heard of this Journal.

* Vendors of fertilizers in our own country, by Act of Parliament, are under the necessity of providing a statement, we believe, of the percentages of the elements or compounds contained in their manures. This, we believe, can be demanded when buying quantities over 3lb in weight.

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Journal of Horticulture.

THURSDAY, FEBRUARY 6, 1902.

The Weather of 1901.



FOLLOWING in the footsteps of the majority of its predecessors of the last decade of the Nineteenth Century, the first year of the Twentieth in its prevailing weather was chiefly remarkable for deficiency of rainfall. Unlike

its more immediate forerunners, however, the year until the middle of April was marked by generally low temperatures, coupled with (taking the period as a whole) a fairly average rainfall. As this deficiency of temperature was most noticeable during the last six weeks of winter and the first week or so of spring, Nature generally was very loth to awaken from its winter sleep; the season, indeed, promising at this time to prove the most backward of the many backward ones of recent years.

Then, with the third week of April, came a great and welcome change; this month, after commencing with a fortnight of cold weather and incessant rainfall, concluding with a similar period of brilliant and almost continuous sunshine, associated with a temperature rising at times to summer heat. As for once in a way the ensuing month did not bring its usual contribution of "May winter," in spite of an undue prevalence of somewhat cold north-easterly winds, the spring proved upon the whole very favourable for garden work. But rain was badly needed, and as, with the exception of some heavy thunderstorms during the fourth week of July, the fall was generally deficient throughout the following summer, much of this early promise remained unfulfilled. Generally it is fairly safe to predict a break-up of a summer's drought some time towards the close of September or early in October, but for once this did not occur, very little rain falling during either of those months or the following.

READERS are requested to send notices of Gardening Appointments or Notes of Horticultural Interest, intimations of Meetings, Queries, and all Articles for Publication, officially to "THE EDITOR" at 12, Mitre Court Chambers, Fleet Street, London, E.C., and to no other person and to no other address.

Then, however, after nearly eight months of dry weather, and following a series of unprecedentedly severe autumnal frosts, came the inevitable change with the second week of December, and the year closed with a period of very wet weather, which over the more northern districts of our islands partook of the character of severe snowstorms.

Taking the year as a whole, although, from an agricultural point of view, the weather conditions have certainly given justifiable cause for the complaints which emanate so regularly, at the close of each season, from such quarters; from that of the more numerous class, whose gardening ambitions are regulated by the extent of their back gardens, the year must be admitted to have been, taken as a whole, most pleasant and enjoyable. Although in a short article of this description it is impossible to give an exhaustive account of the rainfall of the year, its general distribution over our islands will be seen from the following table, which gives the monthly and yearly falls, and the differences from the average at eight selected stations:—

General Rain Distribution, 1901.

1901.	ABERDEEN	LEITH	LIVERPOOL	VALENCIA	BRISTOL	JERSEY	OXFORD	LONDON
	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
January ...	1.90	1.85	1.85	3.75	2.04	2.01	1.04	0.75
February..	2.29	1.27	1.26	2.32	1.01	1.67	1.31	0.98
March	1.83	1.51	1.66	3.42	2.94	3.01	1.44	2.07
April	2.28	1.26	1.58	6.59	3.30	4.81	2.10	1.90
May	2.35	2.08	0.97	2.81	1.10	1.18	1.24	0.72
June	1.28	1.79	1.88	2.93	1.91	0.85	1.52	1.83
July	2.07	1.02	2.50	1.80	2.71	2.01	4.66	3.21
August ...	3.38	3.72	2.77	3.45	2.80	1.93	2.13	2.20
September	1.53	0.96	1.19	8.10	1.96	1.53	1.86	1.43
October ...	3.05	1.61	3.02	4.66	1.57	3.87	1.18	2.64
November	2.21	2.51	3.10	3.10	0.50	1.31	0.54	0.65
December	3.82	2.86	3.41	7.25	5.42	5.38	3.29	3.11
Total falls	27.99	22.44	25.19	50.18	27.26	29.56	22.31	21.49
Averages	30.84	23.35	28.93	55.80	34.88	34.18	25.72	24.84
Departures from average	-2.85	-0.91	-3.74	-5.62	-7.62	-4.62	-3.41	-3.35

The rainfall, therefore, was, so far as these stations show, deficient over the whole of our islands; the departure from the average being greatest in the west midland districts, and least over Scotland. The only months with a general excess of fall were April and December; while January, February, May, October, and November were almost everywhere dry. The most noteworthy feature of the year's fall was a remarkable downpour over the northern counties of England on November 11 and 12.

Mean atmospheric pressure during the year was generally in excess. The monthly means, and those for the year, at the stations for which the rainfall values have been given, are as follows:—

Atmospheric Pressure.

1901.	ABERDEEN	LEITH	LIVERPOOL	VALENCIA	BRISTOL	JERSEY	OXFORD	LONDON
	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
Jan.	29.873	29.887	29.978	29.941	30.040	30.082	30.049	30.060
Feb.	30.024	30.048	30.080	30.157	30.086	30.085	30.077	30.059
March ...	29.738	29.745	29.766	29.806	29.773	29.794	29.777	29.774
April	29.710	29.723	29.782	29.782	29.828	29.886	29.836	29.851
May	30.143	30.128	30.115	30.085	30.104	30.067	30.113	30.099
June	29.935	29.963	30.032	30.064	30.065	30.094	30.070	30.069
July	30.026	30.016	30.016	30.068	30.013	30.015	30.008	30.010
August...	29.910	29.930	30.007	30.050	30.060	30.096	30.061	30.066
Sept.	29.881	29.856	29.881	29.747	29.898	29.912	29.925	29.936
Oct.	29.793	29.798	29.874	29.920	29.927	29.963	29.926	29.941
Nov.	30.053	30.079	30.143	30.184	30.190	30.210	30.188	30.175
Dec.	29.433	29.462	29.587	29.690	29.649	29.752	29.662	29.666
Mean ...	29.860	29.885	29.938	29.958	29.969	29.996	29.974	29.976
Av. mean	29.836	29.856	29.914	29.919	?	29.977	29.955	29.957
Departures from average	+0.024	+0.029	+0.024	+0.039	?	+0.019	+0.019	+0.019

These figures show a general deficiency of pressure for March, April, and December, and an excess in February, May, August, and November; the departure from normal being very large during the latter month. The greatest pressure at 8 a.m. reported over our islands during the year was 30.70 inches at Roche's Point on February 16, and again at Valencia on November 29; and the least 28.48 inches at Blacksod Point on March 1, a range of $2\frac{1}{4}$ inches.

Unlike the four preceding years, all of which were much warmer than usual, the mean temperature of the twelve months did not differ much from normal. In the third table given, the mean temperature for each month, and also for the year, at eight stations situated over our islands will be seen.

Mean Temperatures During the Months.

1901.	ABERDEEN	LEITH	LIVERPOOL	VALENCIA	BRISTOL	JERSEY	OXFORD	LONDON
	deg.	deg.	deg.	deg.	deg.	deg.	deg.	deg.
January ...	38.5	39.3	38.8	45.0	38.6	42.9	37.7	39.0
February..	35.6	37.7	37.1	40.3	36.6	39.7	35.8	36.0
March	38.8	40.2	39.9	42.8	40.4	43.3	39.6	39.9
April	44.3	46.2	47.5	47.2	48.0	50.4	48.3	49.2
May	49.3	51.8	53.7	53.6	53.9	55.2	53.2	54.8
June	53.5	56.4	56.8	55.7	58.4	59.7	58.5	60.0
July	59.9	62.4	63.8	59.8	65.3	64.9	65.3	66.4
August ...	57.3	59.8	60.1	58.9	61.4	64.3	61.6	64.0
September	54.7	57.2	57.5	56.9	57.8	61.0	57.6	59.4
October ...	46.8	48.8	50.3	51.2	50.2	54.7	49.8	50.6
November	41.3	42.7	42.5	46.3	39.9	46.5	40.2	40.5
December	37.5	37.5	39.5	44.1	39.0	44.7	38.3	39.3
Mean	46.5	48.3	49.0	50.15	49.1	52.3	48.8	49.9
Av. mean	46.2	47.7	48.8	51.0	49.2	51.9	48.8	49.9
Departures from average	+0.3	+0.6	+0.2	-0.85	-0.1	+0.4	+0.0	+0.0

These means are those of the daily maximum and minimum readings, and are not corrected for diurnal range. As in 1900, July was a remarkably warm month, April, May, August, and the two following months also having means in excess of the normal. On the other hand, both February and November were exceedingly cold; March also having a deficient temperature. The cold of November was the result of three separate periods of frost of most exceptional severity for the time of year. On the 16th of this month, during the prevalence of the second of these periods, the maximum temperature in London was as low as 28deg, and at Loughborough 27deg. On the same date a maximum of 44deg was registered at Aberdeen.

Over our islands the greatest temperature reported during the year was 90deg at several stations in the east of England on July 18 and 19, and the least, 12deg at Loughborough on December 20, an extreme range of 78deg. To a greater or less extent thunderstorms were reported from various districts during all months of the year excepting February, September, and November. They were most prevalent in July, during which month storms of great severity occurred in various districts. One of these visited the metropolitan area on July 25, the resulting rainfall of 2.85 inches at Camden Square being the heaviest daily fall at that station, with one exception, for forty-four years.

Heavy snowstorms prevailed on March 20 over the southern portions of Devon and Cornwall; on March 29, over the northern districts of England and Wales, and generally, on various dates, over the northern parts of our islands during the middle portion of December. Aurora was observed in the north of Scotland on January 22 and 23, February 6 and 8, August 20, and November 18, and also at Malin Head on April 22, and at Newton-Reigny on November 14.

Gales were very prevalent during January, March, and December, and to a lesser extent in the three autumn months. The most serious occurred on November 12 and 13, and on the two similar dates in the following month. These prevailed generally over our islands, and were the result of deep cyclonic disturbances, the centres of which passed from the westward directly across our islands.—H. H. HARDING, F.R. Met. Soc., Bristol.



Roses for Autumn Blooms.*

(Concluded from page 106.)

Among the Teas and Hybrid Teas I would particularise: White, or nearly white, Antoine Rivoire, Enchantress, G. Nabonnand, Hon. Edith Gifford, Madame Cadeau Ramey, White Lady, and Yvonne Gravier; straw-colour and yellow, Madame Chedane-Guinoisseau, Madame C. P. Strassheim, (extraordinarily free in blooming), Madame Hoste, Marie van Houtte, and Sulphurea; orange-yellow and buff, Alexandra, Goldquelle, Madame Charles, Madame Falcot, Safrano, Souvenir de Catherine Guillot (magnificent), and Souvenir de William Robinson (tinted); pink and rose-colour, Boadicea, Grand Duc Adolphe de Luxembourg, Grande Duchesse Anastasie, Madame Jules Grolez, and Rainbow; salmon-rose and red, Empress Alexandra of Russia, Ferdinand Jamin, Madame Abel Chatenay, Madame Lambard, Morning Glow, Safrano à fleurs rouges, Salmonea, and Souvenir de J. B. Guillot; full red, Comtesse Festetics Hamilton (a magnificent metallic shade of colour), Francis Dubreuil (deep red), General Schablikine, Marquise Litta, Marquise de Salisbury (very brilliant), Marie d'Orléans, and Papa Gontier.

The third group, varieties of vigorous growth, will consist of a few of the stronger-growing Tea Roses and Hybrid Teas, together with the Hybrid Perpetuals and Bourbons. Here also we have a very large selection, from which the following appear to me some of the best for autumn flowering: White and nearly white, Augustine Guinoisseau and Viscountess Folkestone; yellow, Madame Pernet Ducher; pink and rose-colour, Aurora, Belle Siebrecht, Camoens, Caroline Testout, (extra fine), Duchess of Albany, Grace Darling, La France, Madame Wagram, Marie Finger, Marquise de Castellane, Mrs. John Laing, and Victor Verdier; red and crimson, Alfred Colomb, Comte de Raimbaud, Corallina (extra fine), Ella Gordon, Exquisite, Fisher Holmes, Gloire des Rosamane, La France de '89, Louis van Houtte, Madame Isaac Péreire, Madame Victor Verdier, Ulrich Brunner fils, and Victor Hugo. Of these last, Fisher Holmes, Louis van Houtte, and Victor Hugo are of somewhat less vigorous growth than the others. To this group also belong the Rugosa Roses, the Perpetual Moss, the Perpetual Scotch, and the Clynophylla duplex; these form strong bushes, but from their distinct foliage and general appearance should be planted by themselves. Of the Rugosas, good autumnals are the single red and white, Belle Poitevine (rose-colour), Blanc double de Coubert (white), Fimbriata (fringed white flowers), and the Hybrid Mme. Georges Bruant. This last is one of the most beautiful white Roses in existence, the flowers being of the purest white, and produced in great abundance both in summer and autumn.

In the fourth group, varieties of semi-climbing and climbing habits, we have the best varieties for forming large single bushes or pillars, or for covering arches, or even for planting in masses where bold grouping is desired. We have not quite so large a choice of good autumnals here as in the previous groups, but the following are all excellent: White, Madame Alfred Carrière; yellow, Céline Forestier, Gustave Regis, and Billiard and Barré (very rich); buff and coppery tints, Desprèz à fleurs jaunes, Gloire de Dijon, Kaiserin Friedrich, Madame Chauvry, Madame Moreau, and William Allen Richardson; pink and rose-colour, Pink Rover and Climbing Belle Siebrecht; crimson, Deschamps, Fellemberg, and Gruss an Teplitz. The last named is one of the most striking Roses of recent introduction, and cannot be too highly recommended for the richness and brilliancy of its colour, as well as for the extraordinary profusion in which its flowers are produced in autumn. The introducer informs me that it was the result of three consecutive crossings: in the first instance Sir J. Paxton (Bourbon) was crossed with Fellemberg; the offspring of this union was then crossed with Papa Gontier, and the progeny was again crossed with Gloire des Rosamane. As a creeping or trailing variety

for banks and mounds, Rosa Wichuriana is excellent, its pure white star-like blossoms contrasting well with the bright grass-green foliage.

It is satisfactory to know that, notwithstanding the rich choice of materials for the autumn Rose garden that are already in existence, the production of new varieties of pronounced autumn-blooming characteristics is still engaging the attention of hybridisers, and valuable new shades of colour, as well as distinct departures in style of flower and habit of growth, may be looked for in the future. In this latter connection I may mention Mr. Pernet-Ducher's interesting hybrid, Soleil d'Or, a cross between the Persian Yellow and the Hybrid Perpetual Antoine Ducher.

This Rose, flowers of which have been seen at the meetings of this Society during the past spring and summer, may be considered to be the first of a race of perpetual or autumn-flowering Briar Roses, and it is to be hoped that the raiser may have further introductions of the same race to follow. I also have great hopes of the varieties that are being raised at Waltham Cross from the free-blooming varieties so largely grown in the South of France crossed with the Chinese varieties. These have already given us such fine autumnals as Corallina, crimson, Enchantress, Queen Mab, Salmonea, and others, and several other seedlings of great promise have been exhibited from time to time. The enthusiasm of raisers of new Roses is keenly alive to any preferences on the part of the public in all that pertains to their favourite flower, and now that due appreciation of autumn-flowering Roses is being manifested, it may be relied upon that the raisers will be found equal to producing all that is required of them.

The Camassias.

Amid the wealth of bulbous, cormous, or tuberous rooted plants there are sure to be some genera whose claims to appreciation in the garden are, to a certain degree, unregarded. They may have slight recognition at the hands of a few enthusiasts, but to the greater number of amateurs and gardeners they are as caviare. One feels inclined to place the Camassias, or Quamashes, in this list of almost unappreciated flowers. We have not got the length of making use of the bulbs as do, or at least did, the American Indians, who frequented the plains where Camassia esculenta grows just after the plants went out of flower, for the purpose of collecting the bulbs for food. They stored them for winter use, and cooked them by baking them between hot stones, when, we are told, they had an agreeable taste and the appearance of baked Pears. I am not particularly anxious to test the merits of the Quamash, as it was called by the Indians, and prefer it as a flowering plant, even though Maund says that "it is a vegetable of the first importance to the inhabitants of some parts of North America." One's lot being cast on the other side of the Atlantic, I prefer those in more general use in our own islands.

As regards its uses as a flowering plant, I look, however, upon the Quamashes with a more favourable eye, though they have the fault of being fugacious in their flowers, and generally last only for a few days, leaving behind them pleasant memories of their tall spikes of pretty blue, purple-blue, or white flowers. By dint of giving them a little shade and a moist position, we can lengthen their flowering period by a day or two, and it is worth our while to try this, so much are the flowers admired when at their best. Now that someone has been raising new seedlings (I wish I knew the raiser's name), we may look forward to their obtaining a little further share of public favour, although the popular taste naturally prefers a flower whose beauty is less evanescent. Only a short time ago there were only a few species known in gardens. These were *C. esculenta* and *C. Fraseri*. The former is the one eaten by the Indians, whence the specific name of *esculenta*. It is also the one best known to the majority of gardeners, and is a handsome June flowering plant, with its 2ft spikes of pretty purple-blue flowers, with a green ovary and yellow anthers, which lighten up the flowers wonderfully, and add to the attractiveness of its tall spikes and its fresh coloured green leaves. The plant known often as *C. esculenta* Leichtlini is generally considered only a variety of this, although sometimes set down as a separate species. It has dull, creamy-coloured flowers, and is not by any means an attractive plant. It appears to be confused with a whiter form of *esculenta*

* A paper read before the Fellows of the Royal Horticultural Society by Mr. Arthur William Paul (Messrs. Wm. Paul & Son), September 24, 1901. Printed in vol. xxvi., parts 2 and 3.

called *C. e. alba*. At present the principal authority appears to be in favour of giving specific rank to *C. Leichtlini*, of which the type is said to be blue, and the creamy one only a variety. It is of this plant that seedlings were offered last year, said to give flowers varying from blue, through lavender and French grey, to white, with intermediate shades. I was glad to be able to secure a few of these, and hope to see them in bloom this year.

Camassia Fraseri of Torrey is a pretty plant with blue flowers, sometimes nearly white, and growing by the sides of streams and in meadows from Pennsylvania to Texas, where it flowers from April to May. It grows about 2ft high, and is a nice form for those who want a little variety. Britton and Brown, in their "Illustrated Flora," figure it under the name of *Quamashia hyacinthina*. More people who have the space available ought to grow the fine *C. Cusicki*, which has broad foliage and spikes of large, pale lavender-blue flowers with yellow anthers, and reaching a height of from 2ft to 3ft. This is an effective and very hardy species from Oregon, and introduced about twelve years ago. The latest species to make its appearance has been *C. Engelmanni*, which hails from the Rockies, and has very large bulbs, which would make a more substantial meal if edible, about which I can say nothing. The spikes of flower are from 1½ft to 2ft high, and the bright blue flowers are rather loosely arranged upon it. This species flowers about July.

While it will be seen from these details that there is but little variety of colour among the *Camassia* species, it must be remembered that the blue or blue-purple hues of the flowers are not too well represented among flowers at any season, while the plants are so distinct in appearance that they are very noticeable when in bloom. Thus they deserve some increased attention. From my experience of the *Camassias* I am greatly in favour of planting them as early in the season as they can be procured, and of making them permanent occupants of their positions. Bulbs received at the same time as the usual run of bulbous roots are not always so plump and sound as one would like. Judging from their native habitats, the *Quamash* ought to be a good plant for naturalising in moist grass. I recollect seeing it in the grass at Kew a few years ago, but whether a success there or not I cannot say. The fault of the plants I saw there was that they were thinly planted, while the *Camassia* always looks best in bold groups, even in the border, where it will grow well if in a moist and slightly shaded position. Some shelter from wind is also advisable. Planting from 4in to 6in deep is what I recommend.—S. ARNOTT.

Figs under Glass.

Earliest Trees in Pots.

The trees started in November or early in December for affording ripe Figs at the end of April or May, they being of such approved varieties as Early Violet and St. John's for very early ripening, and Brown Turkey to succeed them, will be throwing out fresh roots plentifully, the bottom heat being kept steady at about 70deg to 75deg. Bring the fermenting material up to the top of the pots, and place pieces of rich turf of good size round and over the rims to keep the roots near home, and to induce sturdier growth than would be the case if the roots came over the top of the pots to ramble unchecked in the fermenting material. Maintain a good moisture in the atmosphere by syringing twice a day and damping as may be required in bright weather. Admit a little air at 70deg, increasing it with the temperature; close at 75deg, and if the temperature rises to 80deg or 85deg it would be an advantage. See that there is no lack of water at the roots. The drainage being good, there is little danger of giving Figs too much water. Many crops are lost by the soil being kept too dry. The temperature in dull weather must be kept at 60deg to 65deg, 55deg to 60deg at night, when the external air is cold, but 5deg higher when the weather is mild. Disbudding will need to be attended to as growth advances and gross shoots stopped, but the finest Figs are borne upon extensions.

Forced Border Trees.

The trees started at the new year will, if the borders have been brought into a properly moist condition by watering with tepid water, be starting into growth, and may have the night temperature gradually raised to 55deg, 60deg to 65deg by day from fire heat, with an advance from sun heat and free ventilation to 70deg or even 75deg. Syringe twice a day, except when dull, then damp instead, and see that the borders are thoroughly moistened. If the trees are weak, a thorough soaking of tepid liquid manure, not too strong, will assist the growth.—GROWER.



Notes on New Japanese Varieties.

As the analysis of Chrysanthemums published last week does not give much information as to what are desirable additions, for the benefit of those who had not the opportunity of judging for themselves at the various shows where exhibited, I give a selection of those I consider as being worthy of addition to an even already long list in this section. Exhibitors of experience know well the value of a new variety in close competition when such possesses points of excellence beyond a variety similar in character. To impress upon beginners in Chrysanthemum culture the importance of such an addition, I only need to name one or two instances. For example, take *Madame Carnot* and *Avalanche*, or *W. H. Lincoln* and *Mrs. Greenfield*, or *Mrs. Barkley* and *Mrs. C. H. Payne*. At one time *Avalanche* was looked upon as unsurpassable as a white-flowered variety, and so was *W. H. Lincoln* as a yellow. *Mrs. C. H. Payne*, for size and coarseness, was a veritable monster. Fortunately all three are surpassed so much that few examples of the older type are now to be seen.

Sentiment, or weakness for a particular variety, does not count much upon the exhibition table. The best, and the best only, are there required. Having had opportunities during the season just now past of inspecting the bulk of new varieties at the various shows, I give below for beginners the benefit of my experience, a selection of new and desirable varieties. In some cases, perhaps, my definition of colour and form may not agree with that published in all catalogues. I give, for the benefit of Journal readers, a faithful description of what I saw, and as I have no axe to grind I have nothing to gain or fear in description. As has been largely in evidence of late, we annually obtain a goodly number of home-raised varieties of sterling merit. About this there is one redeeming feature. Generally, raisers here have been in the near past exhibitors, and they know the value of dwarf, or reasonably dwarf, growing varieties, hence they have taken this largely into account when selecting varieties for hybridisation. Now we have a type of fairly dwarf-growing varieties with a robust constitution, and, what is equally important, too, the individual quality of the blooms is distinctly improved. We get fewer yearly of such coarse-growing varieties like *Graphic*, *Etoile de Lyon*, *Madame Gustave Henry*, *Soleil du Levant*, and *Mrs. C. H. Payne*, or even *International*. What we require, not only for exhibition, but for home decoration, are varieties that are more graceful in type, yet full solid blooms, like *Phœbus*, *Mrs. Greenfield*, *Mrs. J. Lewis*, *Lord Ludlow*, *J. R. Upton*, *Miss Evelyn Douglas*, and *Bessie Godfrey*, and incurved Japanese, like *Mrs. Weeks*, *Miss Elsie Foulton*, *Donald McLeod*, and *W. R. Church*. No matter how large such varieties are produced, they are never regarded as being coarse.

Of English-raised varieties we have a large number this season, and amongst them many sterling novelties. To Mr. Godfrey, of Exmouth, belongs the palm of introducing the greatest number of new varieties, of which some of the following are the best, and should be in every collection—large or small.

BESSIE GODFREY

grows to full size, has long, broad semi-drooping florets which curl at the tips; the colour, pale yellow, deepens considerably towards the centre on the unexpanded florets. This is a distinct improvement upon *Madame Von Andre*, and is likely to become a standard variety.

EXMOUTH CRIMSON

has loosely formed flowers with incurving florets, which reflex with age, thus exposing the rich surface colouring of purplish crimson. The reverse of the florets, while expanding, is quite prominent and pleasing—bronze flushed with yellow.

GODFREY'S TRIUMPH,

when fully developed, has graceful, drooping florets, rich ruby crimson in colour, the reverse crimson and golden yellow. This is quite a unique colour, and a full, yet handsome, flower.

EXMOUTH RIVAL

is a magnificent *Cullingfordi*, and for its colour alone should be in every collection. Masterpiece is Indian red in colour, the reverse of the florets golden yellow flushed with crimson. *Queen Alexandra* belongs to the *Lady Ridgeway* type of flower. It has broad reflexing florets; when fully developed in colour it is remarkable golden amber, suffused with terra-cotta.

GODFREY'S KING

I look upon as one of the best. It is a true Japanese, with semi-drooping florets of a rich terra-cotta colour flushed with amber.

VIOLET LADY BEAUMONT

was raised by Mr. N. Molyneux, Rookesbury Park, Fareham, and is a promising variety: fully expanded flowers measure 8 in in diameter and from 5 in to 6 in deep. The flat reflexing florets are a deep crimson. In habit the growth is all that could be desirable, producing full-sized blossoms on plants 5 ft high.

MRS. GREENFIELD

is easily described as an improved Phœbus. The florets are more drooping and possess more grace even than that charming variety.

MAY VALLIS

is of a pleasing tint of colour—rose splashed and flushed with purple, which deepens in later blooms; the reverse is silver. The long drooping florets have an irregular twist at the point.

THE PRINCESS

is an Australian raised variety of full size; the florets, of medium width, drooping, and imparting much grace to the flower, which is creamy white flushed with lilac.

MRS. T. W. POCKETT

is another Australian seedling, and bearing as it does the name of the wife of that eminent raiser and esteemed man, Mr. T. W. Pockett, that should be a sufficient guarantee of its worth. Some writers have described it as being like the Madame Carnot type, but I see nothing in the flower to lead me to that conclusion. It is an exact counterpart of Nellie Pockett in everything except colour, which is pure yellow, and should be as valuable to the exhibitor as is that sterling white-flowered variety.

HENRY BARNES

is from the same origin, and is the nearest approach we have to Edwin Molyneux in colour. The newcomer has less brightness—more purple in the suffusion. The flower is distinctly an acquisition, the broader florets giving it a good impression. A variety that is sure to be sought after when better known.

MISS E. FOULTON

is, next to Mrs. H. Weeks, the finest variety we have in the incurved Japanese section. The florets are broad regularly, yet not too closely, incurve, building up a full-sized solid bloom. Pure white in colour. The smallest collection should contain this variety.

W. R. CHURCH

was sent over here last year from Australia, and has fully come up to the high expectation formed of it then. As an incurved Japanese it stands high in the list. Well developed blooms measure 8 in in diameter, and, what is important in an exhibition flower, the depth is consistent with its breadth. When unfolding, the chestnut reverse florets are tipped with silver; the inside, or surface, colour is ruby red. The plant grows vigorously and is of dwarf habit.

Amongst white-flowered varieties Madame Herrewége is conspicuous. The florets droop when expanding, twisting with age at the point, which are characteristics which go to prove its doubtful origin—sport from *Australie*. The colour is white, flushed with rich cream or the palest of primrose in the centre, which naturally passes off with age. In any case it is an acquisition.

DONALD McLEOD

I saw in Edinburgh, and as there seen it is a magnificent addition. It has long, broad, drooping florets, which curl slightly at the tip. The colour—yellow lined and speckled with purplish crimson—is very pleasing.

HENRY STOWE

is an English raised variety, sometimes seen as a perfect incurved Japanese, and at other times it is a charming drooping petalled variety. In either form it is deserving of attention, growing, as it does, to a full size. The colour is pleasing—white-edged and flushed with purple.

ETHEL FITZROY

is of full size, with a rich yellow amber tint. The semi-drooping florets incurve at the tip. I would strongly advise all exhibitors to procure this variety. Kimberley is in some instances an incurved Japanese, while in others it is distinctly reflexed, perhaps owing to age. The medium sized florets are golden yellow flushed with bronze. Mrs. J. E. Collins belongs to the incurved Japanese section, being silvery peach in colour.

MADAME PAOLO RADAELLI

also belongs to the incurving Japanese type, with a rosy pink tint of colour. Mrs. J. Cleeve is a flower of good depth, with a rose-coloured surface and a yellow reverse. A full reflexed flower, making a good addition to that type.

MASTER C. SEYMOUR

reminds one very much of Mrs. C. Wheeler in its formation of floret and build of flower. The colour on the reverse is chestnut bronze with a surface of deep red.

SNOWDRIFT

is a loosely incurving Japanese variety of a pure white tint. Major Plumbe belongs to the incurved Japanese section, with a rich orange yellow tint.

MARQUIS V. VENOSTA

in colour is rose shaded with silvery white. The florets are bifurcated at the tip. Mrs. J. T. Thornycroft has narrow reflexing florets, forming a deep yet compact bloom. The colour is pleasing—red and yellow or apricot.

ELLA HEXHEIMER

has the lower half of the flower a rosy striped purple with the centre rich yellow. The florets are hirsute at the tips.

MRS. G. MILEHAM.

was sent over last year, and has proved itself to be a sterling variety. The florets so reflex as to show the silvery mauve colour to perfection. It reminds one of Mrs. Barkley when seen in a reflexed condition. In Mrs. Mileham this is its natural style of opening, hence its value.—EDWIN MOLYNEUX.

(To be continued.)

Chrysanthemum New Year's Gift.

Mr. Thomas Burn, head gardener, Sherdley Hall, St. Helen's, Lancashire, writes: "I would like to point to a valuable late Chrysanthemum, viz., New Year's Gift, which I think could not very well be beaten. It is in perfect flower with me at the present time (February 3), and keeps well when cut. It is a beautiful white and of good substance, and comes in very handy at present, when flowers are so scarce."

Forwarding Tulips, Daffodils, and Irises.

(Concluded from "Forcing Bulbs," page 458.)

Thanks to the greater amount of light which the fast lengthening days give, the forwarding of bulbs and other plants now becomes a comparatively simple matter, always provided that, in the case of bulbs, a good amount of top growth has been made before they are taken into heat. During the last fortnight we have been cutting fine flowers of Tulip Yellow Prince by the hundred, and we certainly look upon it as being one of the best yellow varieties which can be grown to supply flowers during the last two weeks of January and throughout February. In many cases, when cut, the flowers and stalks were 15 in in length, and Tulips with long stalks are always appreciated at this season. We grow all bulbs intended to supply cut flowers in boxes. They are started by placing the boxes under a stage in a house, where a temperature of 60 deg is maintained. The pipes to heat the house run under the stage, and by fixing a mat in front, at points where the bulbs are placed, the heat is conserved, and a daily syringing causes them to start freely. When growth is about 3 in in length, the boxes are removed to a bed where there is bottom heat, and a movable light above. When placed in this position, the ground is slightly darkened for a time, and by degrees fully exposed to light and air, the top of the frame being eventually removed. In this way the long-stalked Tulips referred to have been grown. When bright weather occurs, from the present time onward the boxes are removed to a cool house as soon as the flower buds are fully developed, and before they begin to open. In their cool quarters they can be shaded, and a few days' sojourn here helps to give substance to both flowers and leaves.

Until the beginning of February the Tulips grown to supply pot plants may be grown in boxes, and the pots "made up" when the flowers are fully developed; but as such plants need to be more sturdy than those grown to supply cut flowers, the boxes containing them should be kept near the glass, as soon as free growth is being made. From February onward it is better to rely upon bulbs which were potted into their flowering pots the previous autumn, as, when no transplanting has to be done, the flowers have more substance, and last longer. If the pots can be placed on a shelf near the glass, and have good attention in regard to watering, grand potfuls may be grown. Throughout February, if Tulips are started under a stage, they will generally succeed a week or ten days after, on an ordinary stage, in an intermediate house without the aid of bottom heat. Much, however, depends upon the weather, as during that month it is sometimes so cold and dull that sharp forcing is necessary. When March comes in the temperature of an ordinary greenhouse suits them admirably. Proserpine has also been particularly good with us this year, and it supplies a much needed colour, that is, salmon pink. Among doubles, Tournesol and Duke of York are favourites, with La Candeur to supply flowers at Easter. The choice named varieties obtained in collecting should be brought on steadily for flowering in March.

The single Van Sion is a good Daffodil for early forcing. Ours are just over, and the double form is just showing flower. We use no bottom heat for Daffodils, but just start them under the stage, and when they are growing freely stand them on it. A little too much bottom heat, or, indeed, too much heat of any

description, will quickly cause the flowers to go blind. A temperature ranging from 55deg to 60deg suits them well till the flower stems begin to lengthen; more heat may then be applied. I often wonder why *Narcissus poeticus ornatus* is not forced more largely. Many are content to get flowers in March, yet we invariably begin to cut at the beginning of February. [The ordinary *N. poeticus* is selling freely in Covent Garden, and has been for three weeks.—Ed.] The bulbs are placed in boxes early in the autumn, and the earliest batch is placed under glass at the same time as the Daffodils. *N. p. ornatus* will, in fact, bear sharper forcing than Daffodils. Sir Watkin, Golden Spur, and Horsefieldi are grand Narcissi if subjected to moderate forcing only, and if they are in flower by the end of February, that is usually early enough.

With the advent of bright weather all forced bulbs will require considerable quantities of water at the roots, as the soil should be a perfect network of roots, and if too little water is given, the vigour of the plant is greatly diminished. A little soot water or other liquid manure given occasionally helps to give high colour to both flowers and foliage, and also to improve the substance of both: for, although a good bulb contains the perfectly formed plant in the embryo, yet, as development takes place, feeding will help to give the highest vigour to every part.

Spanish Irises are always appreciated for using as cut flowers, as their quaint and brilliant beauty appeal to some, quite as much as the more aristocratic Orchid. They will not, however, bear much forcing. If a batch is now placed in a house where a gentle heat only is kept regularly in the pipes, they should be in flower by the end of March or early in April. I find that they like constant ventilation; if kept in a close temperature, they often get very thin and weak, but with the same amount of heat in the hot water pipes, and the regular current of air, they succeed well. An occasional syringing during bright weather is also beneficial, and should green fly attack them, as it often will, fumigating should be resorted to, as there are few plants more easily ruined by this well known gardeners' foe than the Spanish Iris. I would also suggest the forcing of a few German Irises, whose rhizomes start freely in a temperature of 60deg.—PLANTSMAN.

Seasonable Hints.

Staking Trees.

Let all newly planted trees be well and properly secured from the spring winds. If any large trees have been removed and planted, three strong stakes should be placed in a triangular, sloping position, meeting at the top, so as when tied to be, as it were, embracing the tree. In this position, whichever way the wind blows, there will be a stake to resist its power, which, on a large-headed tree, is always great. Hence the necessity of having three stakes, to keep the tree firm and its roots quiet. For all moderate-sized trees one stake will be sufficient, if driven firmly into the ground. Trees and shrubs planted early in autumn—if staked then—will now require examining, and should either any of the stakes have blown loose, or the ties have become slack, let the stakes be fresh driven in and the ties renewed, always remembering to place some substance, such as a hay-band, between the stakes and the trees to preserve the bark from being rubbed off or injured.

Attention to Walks.

All walks that do not require renewing should now be weeded, well swept, and frequently rolled, to make them firm, smooth, and even; after frost the gravel is apt to stick to the roller. To prevent this, let the operator put on a water-proof overcoat, and, while a gentle shower is falling, take the roller and draw it over the walk several times. The rain will wash the gravel off the roller, and effectually prevent it sticking. Rolling, while the rain is falling, will crush in the larger pebbles, as the rain will soften the understratum, to allow that effect to take place. This crushing, rolling operation, if frequently performed, will also help to destroy, or to prevent the growth of mosses—those sad disfigurers of gravel walks. The above remarks, of course, apply only to our amateur readers who can afford to purchase a roller. No good garden, indeed, ought to be without one. Our cottage friends, perhaps, may have some kind neighbour that will lend them a roller occasionally for their walks also. Should any pebbles be so large that the roller will not crush them in, take a rammer, such as the paviors use, only not quite so large, and, with this instrument, beat down these large stones to the level of the walk; then run the roller over the walk, and all will be even alike. We have frequently practised the rolling of gravel walks during a shower, and always found it to answer admirably in preventing the gravel adhering to the roller and making it set firmly, and become an even smooth walk.

Trenching and Digging.

These operations may yet be performed in the flower garden, where the beds are empty of flower roots, that is, if our plan of having the beds filled with evergreens in pots has not been adopted. The plan to do this well and effectually is to remove all the soil out of each bed to the depth of 16in or 18in. If the soil be poor or exhausted take it all away, and entirely renew the bed with fresh soil. Flowers mostly love a light and rather rich soil. The following compost will suit the generality of flowers, usually grown in masses of one variety, in each bed: One-half of turfy loam from a common or old hilly pasture (this should be at least twelve months laid up in a heap and regularly turned over once a month, for that time, before using); sandy peat, one-quarter; very much decayed cowdung and leaves, one-quarter; with as much river sand as will give the whole a sandy texture. To make this perfectly plain, we will describe the compost as consisting of two barrowloads of loam, one barrowload of sandy peat, half a barrowload of cowdung, and the same quantity of rotten leaves, with the requisite quantity of sand—perhaps a bushel of sand to the above quantities would be enough, or less would do if the loam and peat are naturally sandy. At the bottom of each bed put in the rougher parts of the compost, which may be picked out for that purpose. The old soil will be useful for vegetable crops, and may be wheeled at once into the kitchen garden. When the soil of the beds is once thoroughly renewed, as above described, it will last several years, with the addition of a portion of dung or rotten leaves annually. The soil in the beds ought to be filled in so high as to allow for settling. When all the beds are filled, if they are on the lawn, let the edges be neatly cut with a sharp edging knife, and the turf that is cut off taken to the compost yard to decay. It will make good loam for various potting purposes. The beds will now require no more attention till the time arrives to plant the flowers.

Violets.

Continue to cover up every night, and give air on all mild days. Keep a good look out for slugs, as they are very fond of making a meal of those favourite flowers. Let the flowers be gathered as soon as they are fully blown. By doing this constantly, you will strengthen the coming blooms. Should several sunny days succeed each other they will require water. Whenever you observe this, have some soft water, about as warm as new milk. Do not give them a mere dribbling only, but a right good soaking, that will thoroughly wet the soil and go down to the roots effectually. This good watering will cause them to send up fine, large, well-coloured flowers. The operation will then not need to be so often repeated, for when too often done there is danger of damping off the flowers. Watering should now be always done early in the morning, and on fine, warm days. It may happen that the green fly will make its appearance. As soon as you see them, even in small numbers, procure some tobacco—or tobacco paper—and fill the frame, or pit, with its smoke. Do this carefully, or you may scorch the leaves. Never allow the tobacco to blaze: if you do your Violets will suffer for it. It is easily prevented by damping the tobacco just enough to prevent that effect. The red spider is also very fond of Violet leaves, and if allowed to go ahead will almost destroy them—at least prevent them from flowering satisfactorily. This is a far more formidable enemy to contend with than the green fly, and ten times more destructive. It is also more difficult either to prevent or to get rid of. Yet it must be destroyed, or your crop of Violet flowers will be very meagre.

Forcing Roses.

The first lot will now be showing flowers, and should be attended to closely, with moderate waterings. At every third application of water mix a small portion of guano in the water, or some manure water made with cowdung—both excellent fertilisers for the Rose forced in pots. Should any worm-casts appear on the surface of the earth in the pots, apply clear lime water. This will destroy, without injuring the plants. The green fly will also make its appearance, and may be easily destroyed by the same means as that mentioned above for Violets. The red spider is also fond of Rose leaves. Use the syringe freely to keep him within bounds. Look also for maggots in the buds, and crush them with the fingers. All these enemies require constant watchfulness to keep them from destroying what all your pains are put forth to obtain—healthy plants and full handsome flowers. Some more pots of Roses ought now to be taken in, to insure a succession of blooms. Place them at first at the coolest end of the house or pit, giving but little water for the first fortnight. The roots will, by that time, have begun to put out rootlets (young roots), and will be able now to take up nourishment for the springing buds. You may then give water more freely. The heat for forcing Roses should be 55deg by day and 50deg by night. With sun heat it may be allowed to rise to 60deg, provided there is plenty of air on at the same time. Any higher temperature would cause them to draw up weakly and the flower buds to drop off.—C. G.



Cypripedium × Venus, Oakwood variety.

Hybridisation is working wonders with Cypripediums, for with them the change from more or less dull combinations of colours to the lighter shades and the variety of well-defined tones is perhaps more remarkable than with any other Orchidaceous genus. The Oakwood variety of Cypripedium Venus was shown in public for the first time on January 28, 1902, in the Drill Hall, Westminster, when the Orchid Committee of the Royal Horticultural Society awarded the novelty a First Class Certificate. The successful hybridiser and possessor in this instance is Norman C. Cookson, Esq. (gardener, Mr. Wm. Murray), Oakwood, Wylam, Northumberland. Though not a large flower (see illustration on page 123), it is yet most chaste, exceedingly sweet and soft in colour, as is natural from the parentage—C. insigne Sanderæ × C. niveum. No hybrid Orchid (or hybrid Cypripedium, shall we say?) has received such marked attention and admiration as this did for a long while, according to our experience. The lip is creamy with a suspicion of greenish shade; the forward curving petals are paler still, and dotted all over with reddish spots; the dorsal sepal is wavy edged like the petals, with white margin and tinged green towards the centre, being also spotted. The foliage is greyish, with dark green reticulation. The plant, which bore one flower, was removed at an early hour, the flower having been cut off. We trust that some other hybrids of a like nature to Cypripedium Venus, Oakwood variety, will continue to appear from Mr. Cookson's hands.

Oncidiums.

(Concluded from page 76.)

O. Forbesi is a splendid species belonging to the O. crispum set, its large and richly coloured flowers making it a favourite everywhere. Unfortunately it shows a disposition to give way after it has been in cultivation a few years, often flowering itself to death. The colour is a rich glossy chestnut brown, with a bright yellow wavy margin, and the blossoms occur on large, many-flowered spikes. O. Gardneri is a somewhat similar, but stronger growing species.

In O. hæmatochilum we have a totally different plant, bulbless, with large and handsomely spotted leaves and showy flowers. With this may be grouped O. Lanceanum, a similar and equally beautiful species. To do these well a fairly hot and moist house is essential, and only a moderate thickness of compost, this consisting principally of sphagnum and crocks. Every endeavour should be made to ripen the growth of these plants in autumn, as the leaves act in much the same way as the pseudo-bulb of other species, and unless they are well consolidated they drop off wholesale in winter.

O. macranthum and its allies, O. serratum, O. loxense, O. hastiferum, and others are too numerous to describe separately, but all are worthy of inclusion, their culture being briefly noted above. Wherever possible, the long spikes should be allowed to hang loosely and gracefully among other plants, half their beauty being spoilt if tied up to stakes, as is frequently done. The small side shoots of flowers may be cut separately and last well in water, but if the entire spike is cut it soon fades. O. ornithorhynchum is a compact growing little plant, bearing spikes of small rosy-purple flowers in great profusion. There is also an albino form of this, with only a yellow spot in the centre of the flower. It is rather rare.

O. phymatochilum bears comparatively small flowers, but very freely, upon large feathery spikes. Its blossoms are creamy white or pale yellow barred with brown, and it thrives in an intermediate house. O. prætextum is a fine species belonging to the crispum group, and bearing many-flowered spikes of golden yellow and brown flowers. O. sarcodes is a very distinct and beautiful species, its showy spikes of bright yellow blossoms brightening up the intermediate house in early spring. Like all Brazilian Orchids, it must have plenty of light on all sides and all the year round; consequently it thrives best in small receptacles that can be suspended close to the roof glass. It should never be dried at the root and never over-watered, even in summer, though owing to the small pans or baskets in which it is grown, moisture will be rather frequently needed.

O. tigrinum is a grand cool-house species, with large sweetly scented blossoms produced on stiff erect spikes. Usually it is very free flowering, but I have known specimens remain flowerless for years, for no apparent reason, as other plants in the same house and treated exactly alike flowered with freedom. It does well treated similarly to Odontoglossums. Usually regarded by botanists as a variety of this species is Odontoglossum splendidum. The blossoms of this are almost identical with those of O. tigrinum, but here the resemblance ends, as both the habit and cultural requirements are different.

Last on the list, but one of the finest of all, is the superb O. varicosum. This, and its variety Rogersi, produce splendid racemes of bright yellow flowers all through the winter and spring months if sufficient plants are grown, and it has also the merit of easy culture. The best position for it is close to the glass in a moderately heated house, the roots being confined to rough blocks or baskets, with only a thin surfacing of compost. In this brief list many grand species have necessarily been omitted, my idea being rather to mention the most useful from a garden point of view. Those who wish for special information on any of those left out, or fuller details of those included, are invited to send to our Editor, who will no doubt be pleased to see that they are forthcoming. As it is, my note is already over-long, but my excuse must be the great scope offered by this grand genus, comprising, as it does, many of the most graceful Orchids in existence.—H. R. R.

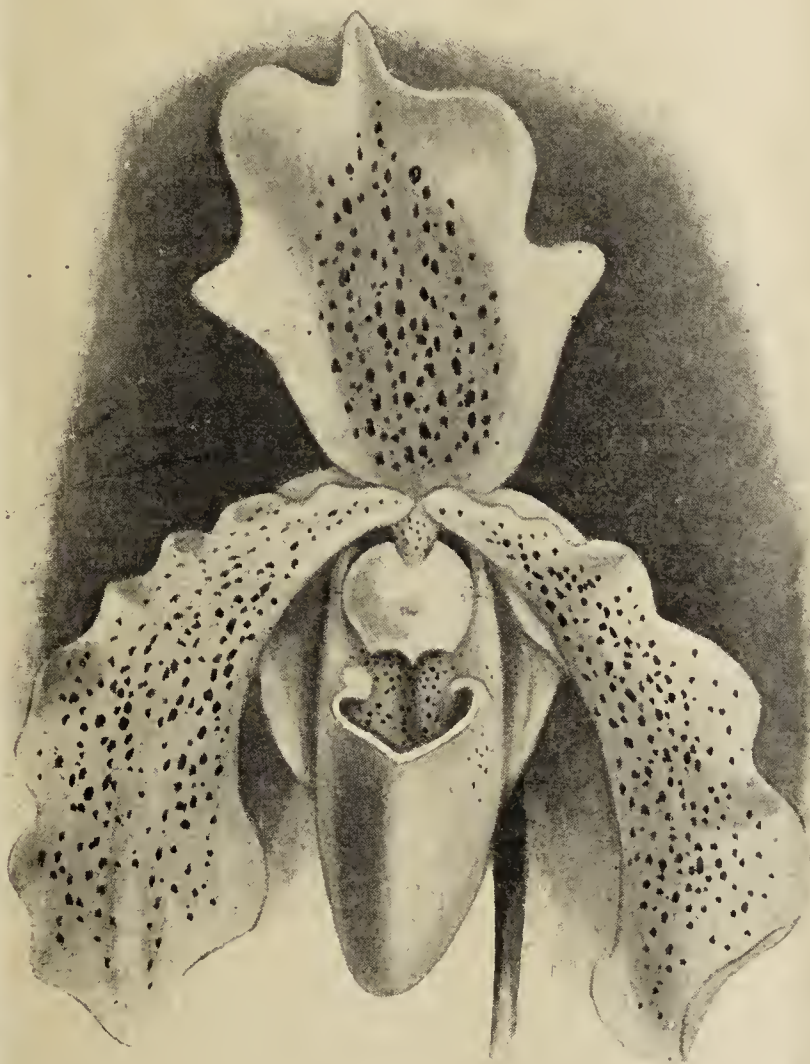
The Week's Cultural Notes.

Although the season is not yet far advanced, yet a number of Orchids will be showing young growths. It is a sign, of course, that the plants are waking up, as it were, after their winter's rest, but to meet this with an increased supply of water to the roots will not be good policy. So far the latter are in most cases still at rest, and the nutriment for the

young shoots is obtained from the old pseudo-bulbs. When these are in need of increased supplies of moisture they will show it by pushing out a new set of roots at their base, and until these are increased water supply is more likely to do harm than good.

Plants badly treated in autumn by sudden and overdrying at the roots, often show their dislike to the treatment by pushing young roots in winter, and these are they that are most trouble when starting. I have mentioned no kind in particular, but Dendrobiums in many cases are ill-treated this way, and with a view to setting things right the grower is apt to water rather freely, consequently the young leads damp off wholesale. Nothing will save them then; when once they start to damp the growths are lost, and back breaks have to be depended upon. A day or two without water never yet hurt any healthy Orchid, but a single overdose of moisture at this time of year may do incalculable harm.

All this is equally true of newly imported as well as established specimens, though in the case of the former there will not, as a rule, be much compost to hold the moisture, so the



Cypripedium × Venus, Oakwood variety.

danger is less. Speaking of imported plants, a point often overlooked is the undoubted liking that most of these have for a little more heat than established specimens of the same species. A newly imported plant of, say, *Odontoglossum crispum* may, for the first year, have at least 10deg more heat than a fully established one, and will be all the better for it.

For although a plant may live, and apparently be healthy, unless it takes with a will to its adopted home the first year, in all probability it never will. A free growth means a correspondingly vigorous root action, hence the advantage of the more exciting temperature at first. It will wake up the dormant energies of the plant, and enable it to make the most of circumstances. Speaking generally, Orchids at this time of year are overwatered at the roots and underwatered in the atmosphere, and the aim must be to prevent this as far as possible.—H. R. R.

Onion Culture.

The date of the introduction of the Onion, and the country it originated from, its real native country, have not been ascertained. It is supposed to be a native of Africa, as the Egyptians cultivated it three thousand years ago, and, of course, do so still. It is well known that Onions are grown in first class condition in Spain, and large quantities are imported to this country, and usually find a ready sale. In some parts of England, for instance the midland counties, Onions are grown so extensively that in autumn a large fair is held, called the Birmingham Onion Fair, where splendid English grown examples may be seen. Good Onions of medium and large size are always in demand, especially when the bulbs are so ripe and firm that they will keep for an indefinite period. I believe, but will not absolutely vouch for the fact, that large quantities of Onions are shipped to the ports of this country, and foreigners then place them together in convenient "ropes," which are then hawked about the streets of large towns and sold.

Of course, "roping" is also done by salesmen in this country, and at the fair above alluded to. It is an excellent practice, inasmuch as it offers good convenience for storing by hanging them up in a cool, airy place. The practice is not so general as formerly, because Onions will keep well by other methods of storing, especially if well grown and properly ripened, as they should be to keep from September to the following spring.

Onions require to be grown in rich soil, of a deep and fertile character. A good position in the garden should be chosen for the bed, trenching deeply in the autumn, and working into the ground plenty of strong manure, for Onions are deep rooting plants, and find much sustenance from the subsoil when the summer is hot and dry. When the lower strata of soil is well manured, and the surface left rough and exposed to the weather, the ground may be cultivated further as soon as the surface dries in spring. It is a good plan to work it over with a fork early in February, adding a dressing of soot and wood ashes, which will materially enrich the surface, and assist in bringing it to a good tilth. When the surface is again workable, break down the lumpy particles, and make the whole tolerably fine, firm, and level. As soils vary in character, the amount of preparation will also vary. Wet and adhesive soils cannot be ready nearly so soon as light, porous soils, and it is useless to sow unless the surface is in a fit condition.

Those who cannot sow as early as they would wish owing to the unsuitability of the soil in respect of securing a dry surface, have recourse to sowing the seed in a box under glass. The seed is sure to germinate, and with plenty of light and air, the seedlings progress dwarf and sturdily. They may be gradually hardened off and planted out in April, at the required distance apart. Larger Onions may be obtained in this way than by sowing the seed in the open ground.

Autumn sowing provides strong plants, which may be thinned and transplanted in April, on ground prepared as before recommended.

In sowing Onion seed deep drills must be avoided. I find that pressing the drills with the back of a rake, running it carefully along by the side of a tightly-stretched line, is the best method. If the ground has been made fine on the surface the drills will be even in depth and smooth. The proper depth is $\frac{1}{2}$ in. Sow the seeds thinly, which saves seed and lessens the labour of thinning, and does not imperil the vigour of the plants by their having to advance in a much too crowded condition before it is possible to reduce

their number. The final thinning out may be to 6in apart, giving more room where the bulbs are expected to swell to a large size. Weeds between the rows and among the plants must be kept down by hand-picking or light Dutch hoeings. Light dustings of soot are good to promote growth and to prevent the Onion fly depositing eggs at the base of the bulbs.

When in full growth liquid manure made from stable, cow, or hen manure may be given the beds; soot water is good, as is also guano dissolved in water at the rate of 1oz to the gallon. When the growth of the plants requires more stimulating, nitrate of soda may be given, $\frac{1}{2}$ oz to a gallon of water. Most of the advertised manures are excellent, and should be applied according to the directions supplied. Ailsa Craig is one of the most popular, and is a leading variety. It is possible to grow bulbs over 3lbs in weight. Sutton's A1 is also a large Onion, and may be grown over 2lbs in weight. Other excellent varieties are Magnum Bonum, Lord Keeper, Cranston's Excelsior, Rousham Park Hero, James' Long Keeping. For pickling, the Silver-skinned is the best.—E. D. S.

Growing Horseradish.

Difficulties often arise in the culture of Horseradish, and the supply of serviceable roots often runs short from the mistaken idea that, once planted, it is not necessary to trouble again. For several reasons it is, however, best to have the cultivation of the root entirely under control, because better roots are obtainable, the ground can be properly cultivated, kept clean, and limited to an extent sufficient for the needs of the establishment.

Before planting Horseradish the ground should be deeply trenched, placing manure liberally at the bottom, and a fairly open position should be chosen. This having been done, the preparation of the sets may be taken in hand. I like to secure straight roots with a good crown. They may be about 8in long. Rub or lightly scrape off the whole of the rootlets, from the crown downwards, to within 1in of the base. This is to prevent the production of strong lateral roots from this main root, confining the rooting fibres to the lower part.

Plant in lines 2ft apart, making holes with an iron bar sufficiently deep to admit the root and crown, the latter being a few inches below the surface. When in position, work the soil securely round, and growth will commence in due time. In good soil these form good roots in twelve months. A few should be prepared annually and planted. This will maintain a continuous supply. All the culture needed during summer is to keep the ground clear of weeds, by occasional hoeing, until the growth has become dense.—S.

Outdoor Peaches and Nectarines.

These trees do not push the flower buds quite so early as Apricots, but an early opportunity should be taken to prune, cleanse, and re-arrange the whole of the trees. Both Peaches and Nectarines bear the best and most reliable crops on well ripened young growths of the previous year, and if a sufficiency of these can be commanded, there will be but little need of artificial, or even natural, spurs, though the latter may be retained if they appear. The practice of pruning these trees in summer and autumn leaves but little, as a rule, to be carried out in winter. It is, however, necessary to overhaul the trees, and cut out weakly or worn out branches, and reduce the young growths where there are too many to lay in. The old bearing wood of the previous season is invariably cut out in autumn, but if any has been missed, remove now. As far as possible lay in the bearing wood for the forthcoming season on the upper side of the branches. The training cannot be so systematic and regular when the growths are trained on the under side as well. It may not always be possible, however, to do this. If full length shoots cannot be laid in, they may be shortened; but this must be done either at a triple bud or a single bud. It is desirable to shorten the points of unripe shoots. Before fastening in the branches and shoots they should be well dressed with some insecticide. The greatest care must be taken with the young shoots when applying the insecticide, using a brush, and working from the base of the shoot to the point. The larger branches and trunk can be more readily dealt with. A good solution for dressing Apricots, Peaches, and Nectarines consists of softsoap dissolved in water at the rate of 2oz to the gallon, adding a handful of sulphur, first mixing it into a paste with water; or a mixture of Gishurst compound 6oz to the gallon of water may be employed. The solution may be sprayed on the trees, or, if preferred, thickened with a little clay and soot, to bring it to the consistency of paint, then applying with a painter's brush. The advertised insecticides are also good.—S. P.



An Unfruitful Old Mulberry Tree.

Like the Fig tree, the Mulberry is a dioecious plant, a member of that great division in which the floral sexes are ordained to dwell apart, each plant or tree bearing but one form, male or female. Fig and Mulberry trees alike will produce fruit without any influence of pollen; but in such cases the fruit contains, of course, no fertile seed. Presumably, your correspondent's Mulberry tree ("J. D.," January 30, page 114) that "shows plenty of flowers," but no fruit, may be a male or stamiferous plant. Male flowers of the Mulberry are conspicuous catkins, and no amount or spread of tillage materials could possibly make a male plant bear Mulberries!! Fruits on the female tree, when "in flower," are infantine green Mulberries, clothed lightly with curly villose stigmas, one to each division in the future berry. The Mulberry tree does not bear in haste, and if your correspondent's tree is a male specimen, and it were mine, I should, rather than cut it down, try the experiment of grafting scions from last year's wood of bearing growth from a proved female plant. In my ignorance I am assuming that the tree could be grafted (of which I have had no experience), but I know that the Mulberry tree sets great store by its bark: and great arms and branches of its bearing wood often seem to have little else left to live by—above ground.—FRANCIS D. HORNER, V.M.H.

The Chrysanthemum Audit.

Many have, without doubt, carefully perused the audit in the last issue (page 96). It is interesting, but perhaps disappointing. However, it has its peculiarities, which are worth notice. It is disappointing that only sixteen growers took part in the election, and it is peculiar that not one of these is either a member of the General or Floral Committee of the National Chrysanthemum Society. By this I do not wish to infer that they are not good growers, for it must be well known to most that among them are many of the best growers of the day. I only wish to call attention to a peculiar fact. Compared with previous audits, the last is, however, very interesting. It is worth noting that E. Molyneux still occupies a good position, difficult and tedious as it is to grow. It would have been best had novelties yet to be sent out been excluded from the election; still to me it is pleasant to find seven of such, and all of my own raising, are mentioned in the list of Japs. Some will be disappointed that the dull coloured, lanky growing *Australie* takes such a high position. It simply proves that in spite of all that is written and said, size, with a roughness in form, counts for much more than refinement and colour. I am surprised, bearing this in mind, that Marquis V. Venosta does not occupy a better position. Mrs. W. H. Lees, one that has hitherto occupied a high position in these audits, has but one vote, and many other quite recently popular varieties, such as *Oceana*, *Ella Curtis*, *Lady Byron*, *Soleil d'Octobre*, are almost "snuffed out."

Many growers must be surprised to find that anyone could have the temerity to exclude *Madame Carnot* and its two sports, viz., *G. W. Warren* and *Mrs. Mease*, from the best fifty varieties of Japs. In other words, this grower says he knows of fifty varieties which are superior to these three. Surely, if some growers fail with these, many more fail with *M. Chenon de Leché* and *Edwin Molyneux*. Glancing at the audit of 1894, I note *Vivian Morel* and its sport, *Charles Davis*, were very near the top of the best thirty-six. These are still to be found among the best fifty; whilst the later sport, *Lady Hanham*, has even a better position. Of sports it is worth noting how they differ from the parent. In the above case the sport is preferred. For *Mr. C. H. Payne* only one vote is recorded, yet its sport, *M. Louis Remy*, has the highest possible, whilst the white sport, *Mdlle. L. Remy*, is not even mentioned. The yellow sport from *E. Molyneux*, and the pink one (so-called) from *Madame Carnot*, are also both quite ignored. The yellow sport from *M. C. de Leché* (*Marchioness of Salisbury*) has but one vote, whilst the parent has top position; still, few can object to a true yellow of the form of the parent.

Very few varieties in their first season have obtained such prominence as *W. R. Church*, *Mrs. G. Milham*, *Madame Herrewége*, *Lily Mountford*, *Mrs. Greenfield*, and *Mrs. J. J. Thornycroft* and *Charles Longley*; but there are many which are now out of the "fifty" but are "mentioned," which will find a place in it next

year; whilst many, including *Mutual Friend*, *Lady Ridgeway*, *Madame Gustave Henry*, *Henry Weeks*, *Pride of Madford*, *Mdme. P. Rivoire*, *Mrs. Palmer*, and, perhaps, the *V. Morel* family, will be superseded. I am surprised that *Vicar of Leatherhead* does not show up better. I have seen it more than once in good form, and it was certificated by the N.C.S. only last season. Another good variety, *Mr. A. H. Hall*, is not even mentioned, and several varieties which were to be found in the premier stands at the most important shows are not to be found among the fifty best Japs. It is strange that *Le Grand Dragon*, which occupies the top position, has not been certificated by the N.C.S., although placed before the Floral Committee in good form more than once, and the same may be said of *Mr. T. Carrington*. The thirty-six incurved varieties call for little comment except that *Ada Brass* should be *Eda Prass*, and be classed as a Jap, and *Mdlle. Lawrence Zede* is also in the same class. *Countess of Warwick* is identical with *Mr. C. W. Egan*, and as the last name is the correct one, it should be placed among the best thirty-six with eleven votes out of a possible twelve, instead of which it is just outside.—W. J. GODFREY, Exmouth.

Long-tailed Tits.

I wish to thank "W. G., Harborne, Staffs." for the useful and pleasant reading he has contributed under the above heading in the pages of the Journal. It was very good of him to go to the trouble he has taken to make the subject so interesting. Since writing (page 29), I have again had the opportunity to watch the active movements of these feathered friends of ours, for I am positively certain they are none other than friends. This time, instead of searching the hedgerows for food, they were all diligently busy on some Damson trees in a plantation, and as I took particular stock of their eccentric comings and goings, I feel sure it must have been insects they were finding. On making inquiries, I find that this particular flight of the species has been noticed in the vicinity of the fruit plantation for several weeks now. I am quite delighted with my observations, as I feel sure that they are (the birds in question) a class of birds which have been neglected by ornithologists, inasmuch that it may yet be proved that they do a real lot of good amongst our fruit trees; especially where the trees are grown in plantations away from numerous habitations. My observations anent the Gold-crest tally exactly with those of "W. G." I have never seen it in company in the winter time, and I guess on account of its small size, and its seeming horror of human beings, I have been unable to find a single specimen in the summer about here. Perhaps the lack of extensive Fir woods in this part of England accounts for its scarcity.—H. R., Kent.

Acalypha (Sanderi) hispida.

This striking ornamental stove plant is very attractive, and is unsurpassed for brightening the stove at the present time of the year, owing to its long, brilliant scarlet flower spikes and its rich dark-green foliage. Moreover, it is useful for other plant houses, conservatories, and for house decoration and table decoration, also for cutting, as each long, brilliant tassel will prove highly ornamental. They are easily grown with ordinary stove treatment, increased by cuttings, which will root readily in a propagating pit in sandy soil. Insert the cuttings singly in small sixties, then plunge in the propagating pit, spray the cuttings daily, keeping them close until they are rooted.

Air should be admitted gradually, or they will flag, and, consequently, a severe check is given to the plants. They can be grown on single stem, or as bushes. When grown on the bush system the inflorescences are not so large, neither are they so attractive. When grown on the single stem a 32-sized pot is sufficiently large for them. It is also a useful size for house plants. They will grow freely in the following mixture: Loam, two-thirds; peat, one-third; with the addition of a little silver sand. Potting should be carried out with the greatest care, and should be moderately firm.

When the plants become established they will form masses of roots on the surface, and will require a stimulant three or four times weekly, in order to bring them to perfection. When the flower spikes appear overhead syringing should be discontinued, otherwise it is destructive to the flower. The plant delights in a moist atmosphere during its earlier stages of growth. They can always be had in bloom, young and dwarf plants flowering as freely as the more matured ones. When had earlier in the season a plant house or conservatory will be a suitable place after the flower spikes begin to show. The plants will require a stove temperature at the present time.—WALTER JONES, The Gardens, Stoneleigh Abbey, Kenilworth.

The Scientific Committee (R.H.S.)

January 24th.

Present.—H. J. Veitch, Esq. (in the chair); and Messrs. Druery, Douglas, Holmes, Saunders, Shea, Michael, Bowles, Rev. W. Wilks, Drs. Müller, Cooke, and Masters.

Bulbiform Seed of Crinum.—Mr. Druery showed on behalf of Mr. Roupell a fine example of this curious condition. The seed was of the size of a small Apple, green and fleshy.

Red Spot on Leaves of Imantophyllum.—Mr. Saunders brought specimens showing a red spot. It was stated that these spots sometimes followed on the attacks of the bulb-mite, and that they were connected with the presence of a Yeast fungus (*Saccharomyces*).

Cucumber Leaves.—From Mrs. Batten Pool came with the familiar signs of the presence of red spider.

Grub in Roots of Pæony.—Mr. Cannington Ley, of Farleigh, sent, through Mr. Bunyard, Pæony roots eaten by the larva of some moth, which was pronounced to be a Swift moth, *Hepialus*.

Cyripedium insigne variety.—Mr. Tracy, Amyand Park Road, Twickenham, sent a specimen which may be described as a dwarf or stunted flower, in which all the parts of the flower are normal, but much reduced in size. The plant produced flowers of the same character last year also. No information was given as to whether the whole plant was dwarfed, or only the flower.

Cyripedium insigne variety.—In this specimen, from Mr. Parr, Trent Park, New Barnet, there were two flowers, the top-most flower expanding first, the second flower developing from the axil of the bract which was developed as a perfect leaf. The parts of the flower were normal.

Richardia Corms.

Mr. G. S. Saunders reported on the corms sent to the last meeting: "The *Richardia* corms that I took away from the last meeting of the Royal Horticultural Society's Scientific Committee are attacked by one of the 'bulb mites,' probably *Rhizoglyphus echinopus*; it is a very difficult pest to deal with. Water at a temperature of 115deg F. will kill them. I should add 4oz of sulphide of potassium to every quart of water, and allow the bulbs to remain in the mixture for ten minutes or a quarter of an hour. I do not imagine it would injure them in any way, the injury does not seem to have gone very far below the surface, so that it might be well to cut out the injured portion before putting them into the warm water. I should be very careful not to allow any of the earth in which these plants were grown to get upon the potting bench, or any uncontaminated soil. As to the *Cyclamens*, I must admit that I was unable to find any eelworms in the roots, but they are affected so exactly in the same manner as others in which I have found them, that I have no doubt but that the 'rootknot eelworm' (*Heterodera radicola*) is the cause. I cannot suggest any remedy, but to prevent the pest spreading the plants and the soil in which they are growing should be burnt, and on no account thrown on to a rubbish heap, or any of the soil allowed to come in contact with non-infested soil." Mrs. Batten Pool now sent specimens of the *Richardia* in growth to supplement the corms above alluded to. On examining the plants, the older roots were found to be decaying, but an attempt was made to form new roots. The appearances were thought by the committee to be due to a check caused by cold.

Fasciation in *Valeriana arizonica*.

"In March last," writes Mr. Worthington Smith, "I received by post, from Dr. Masters, a specimen of *Valeriana arizonica* for illustration. The example was received in a flat and semi-dried state, and it had previously been received also by post from Mr. Henkel, of Darmstadt, so the specimen may be truly said to have passed through some vicissitudes before I received it. The illustration is printed in the 'Gardeners' Chronicle' for March 30, 1901. I planted the damaged and cut rootstock in very poor earth in a pot, and placed it under glass without heat, with the result that the old rootstock has now produced two new growths, both twice the size of the original plant, with leaves twice the normal length, all parts fasciated in a remarkable manner, and with flowers from two to three months in advance of the parent. Fasciation is sometimes put down to over-rich living and comfortable surroundings, but in this instance it seems to have been brought about by serious difficulties."

Pelargonium Leaves.

With reference to Dr. Cooke's report on these leaves, Mr. Fraser writes:—"I should like to say a word in reply to the suggestions made: (1) As to faulty cultivation. I can plead that I have been an amateur plantsman for over forty years, during fifteen of which, in my younger days, I single-handed, grew stove and greenhouse plants for exhibition with good success. I always use the best materials I can buy for compost, and have never yet put a plant into a dirty pot. (2) The wash I used was sulphide of potassium and softsoap, applied both by spraying and liberal ablution, and as fungus and sulphur do not agree, the former may have got the worst of it. (3) My greenhouse has the sun

on it sixteen hours a day in the long days, and a fair share in the short ones. It is glazed with glass 16in wide, between rafters 1in thick, and the glass is washed when necessary, so the plants enjoy all the light it is possible to give them in London. We have had little fog so far. In all my experience I have never seen *Pelargonium* leaves decay in the same way before, and to me the cause is still obscure. I now intend to try nitrate of soda, to induce leaf growth, and later on will report the result."

Chrysanthemum and Cornflower Rust.

Dr. Cooke made the following communication on this subject:—"Recently, when I reported to the committee upon these rusts, I applied a scientific name to the fungus doubtfully, and with a mental reservation that in each case they were the *Uredo* form of *Puccinia Hieracii*, and this was precisely what the book-makers led me to do. I am since informed that in spite of all the efforts and experiments of the heterocismists, they are unable to claim the *Uredo* of the *Chrysanthemum* as the *Uredo* form of *Puccinia Hieracii*, or any other *Puccinia*, which I believed in my own heart all along. Nowadays we are not permitted to trust our eyes, but must have faith in experiments. Hence the poor *Chrysanthemum* rust is an orphan, or worse, even illegitimate, and must remain as *Uredo Chrysanthemi*. As to the other rust, it awaits the result of experiment; but I am more disposed to call it the *Uredo* of *Puccinia Centaureæ*, which has been united or mixed up with *Puccinia Hieracii*. I may be permitted to observe that no fewer than fourteen of the old species of *Puccinia* date before the Reformation; and I know not how many species of *Uredo* are all bundled together into the latter-day species called *Puccinia Hieracii*, amongst these being the *Puccinia Centaureæ* of Martius, and still nearer to our tramping *Uredo*, the *Puccinia Cyani* of Passerini. Let us hope that this also will find rest at last. I should recommend horticulturists to call it *Uredo Centaureæ*, and they will not be very far from the truth.—M. C. C."

Insects are not Pests in their Natural Home.

This is a subject that has only of recent years attracted the attention of the entomologist throughout the world, and a great deal of discussion has taken place upon this branch of economic entomology of late years, as to what are the agents that play such an important rôle as the controlling factor in the multiplication of insect pests. It has become well understood that insects seldom, if ever, become pests in their natural home, but become so, and more often very serious ones, when transplanted to a new region or country. It was first supposed that climatic conditions were responsible for these changes, but that has been found to have little or nothing to do with it, but is the work of natural enemies, and it will not be many years before the fighting of insect pests with artificial methods will become a thing of the past, and be superseded by Nature's own forces. But before that can be accomplished man will be required to play a very important rôle in the programme.

It is a well-known fact that when any country or region has been left undisturbed by man, all forms of life have accommodated themselves to their surroundings, and under those circumstances it would be most unusual to find that any animal or plant had broken its natural bounds and disturbed the balance of nature. But so soon as man's well-meaning ignorance intervenes the case becomes different; the native fauna and flora are transplanted to other regions and fresh ones introduced, and while some exist with difficulty, others break loose from all restraint and destroy other forms of life and become pests. This is caused by being transplanted from one country to another without also transplanting their natural enemies with them. And it will now be for man to find the home of these various insects' pests, and there seek the natural enemies; and in doing so the greatest care will have to be exercised in transplanting these natural enemies without their natural enemies, or, in other words, the secondary parasites.

Every particular plant in the vegetable kingdom has its enemies in the form of insects, and every particular insect has also its enemies in other forms of insects, and when man removes any plant from its native home, and makes it an object of cultivation, it is often found that it becomes attacked by pests, and more often to such an extent that they kill the plants or destroy their commercial value, and the same argument will hold good with insects; make them an object of cultivation, and it will soon be found that they, like plants, are subject to the attacks of other forms of insects. Take the honey-bee, for example; it has several insect enemies. Were it not for the natural checks upon insects, it is doubtful if man could exist upon this earth, the fecundity of these little creatures being so enormous they would in a short space of time raze the vegetation from the face of the earth.

The insect pests that the farmers of Western Australia have

to contend against at the present time are all imported forms. Of the numerous forms of indigenous ones that are to be found there, none are ever likely to become pests, all being so heavily parasitised or fed upon by predaceous forms, that it is difficult to secure healthy specimens of some species, and especially the scale insects. But transplant a single female specimen or two to a new region, and place it upon the same form of food plant,

of Eucalyptus trees growing, no insects have ever attacked them, excepting the white scale (*Icerya Purchasi*), that country having secured its Eucalyptus trees all from Australia, but by seed, and that prevented their insects' enemies from being introduced; but when the white scale was introduced into California upon some young Citrus trees from Australia, it soon attacked the Eucalyptus, as well as all other forms of vegetation, the same



NEPENTHES NORTHIANA. (See note on page 128.)

it will soon become a pest. That is what some entomologists claim is produced by climatic changes; but take the same insects and place them upon a clean plant of the same species in Western Australia, and protect them from their natural enemies, and it will soon be covered with the insects.

In Australia there are a large number of insects of various forms attack and live upon the various species of Eucalyptus trees, while in California, U.S.A., where there are thousands of acres

as it does in Australia, but there it never becomes noticeable, owing to its natural checks. A very good illustration upon this subject may be found in a recent publication, by Mr. E. E. Green, on the insects of Ceylon, in which he says all troublesome insects of that island are introduced species. Out of twenty-six species of *Chionaspis* found there only three are injurious, and these three are imported forms.—(Geo. COMPERE, in "Journal of the Department of Agriculture of Western Australia.")

NOTES

& NOTICES

**Sherwood Silver Cup.**

This trophy, valued at ten guineas, and given annually by N. N. Sherwood, Esq., V.M.H., and Past Master of the Worshipful Company of Gardeners, will be offered at the Royal Horticultural Society's Show next May, in the Inner Temple Gardens, London, for the best collection of hardy ornamental trees and shrubs.

Proposed Trials at Chiswick, 1902-1903.

According to the Royal Horticultural Society's Book of Arrangements for 1902, the following trials are proposed to be made in the society's garden at Chiswick:—Michaelmas Daisies, Perennial Sunflowers, Phlox decussata, German or Flag Irises, New Cannas, New Peas, Potatoes, and Tomatoes. Particulars as to these trials can be obtained on application to the Superintendent, Royal Horticultural Society's Gardens, Chiswick, W.

Royal Horticultural Society.

The next meeting of the committees of this society will take place on Tuesday, February 11, in the Drill Hall, Buckingham Gate, S.W. The annual general meeting of the Fellows of the Society will also be held in the Drill Hall at 3 p.m. on the same date. At a general meeting of the Royal Horticultural Society, held on Tuesday, January 28, fifty-two new Fellows were elected, amongst them being the Countess of Kenmare, the Countess of Sefton, and the Countess of St. Germans, making a total of 123 elected since the beginning of the present year.

Progress at Ipswich.

At the second annual general meeting of the Ipswich Gardeners' Mutual Improvement Association Mr. J. H. Murgatroyd moved, and Mr. H. J. Southgate seconded, an addition to Rule I. providing for the formation of classes for theoretical and practical work in horticulture, the chairman remarking that it was thought that the formation of such classes would lead to the development of the society, and that possibly the Ipswich and East Suffolk Technical Committee, or some other authority, might make grants for the carrying out of the objects in view. The matter will receive further consideration.

The Encouragement of Forestry.

At the annual general meeting of the Royal Scottish Aborigines' Society, held in Edinburgh on the last day of January, Lord Mansfield said he was authorised to state that it was Mr. Hanbury's intention to appoint a Departmental Committee to inquire into and report upon the present position and future prospects of forestry and the planting and management of woodlands in the United Kingdom, and to consider whether any further measures might be taken with advantage, either by the provision of further educational facilities or otherwise, for their promotion and encouragement. Mr. Munro Ferguson, M.P., had been invited and had consented to act as chairman of the committee.

Nepenthes Northiana.

Amongst the numerous, beautiful, and cleverly executed pictures in the North Gallery, Royal Gardens, Kew, is one that may be termed of historical interest, for it led to the introduction of one of the most handsome Pitcher Plants in cultivation. This represents a *Nepenthes*, which was named by Sir Joseph Hooker in honour of Miss Marianne North, who bequeathed her inimitable collection of paintings to the Royal Gardens. One of the firm of Messrs. James Veitch and Sons, Ltd., of Chelsea, on seeing the picture of *N. Northiana* exhibited, was so delighted with the size and bold appearance of the species that, with customary enterprise, a collector was sent to Borneo with the special commission to find it. This, after some trouble, the collector succeeded in doing, and over twenty years ago it first made its appearance in the Chelsea collection of Pitcher Plants, which is probably unique. The species is (or was) found growing upon the limestone mountains in the neighbourhood of Sarawak. So clearly does our illustration on page 127 depict the form and appearance of the species, that lengthened description is unnecessary.

Hybrid Tea Roses.

Two new Hybrid Tea Roses are announced from Germany for 1902, viz., Frau Lilla Rauterstrauch (Mad. Caroline Testout x Gold-quill), and Gustav Grünerwald (Viktoria Melitta x Yellow bicolor).

Gardening Scholarship.

F. G. Ivey, Esq., member of the Court of the Worshipful Company of Gardeners, has kindly offered a Scholarship of £25 a year, for two years, to be awarded after the examination of the Royal Horticultural Society, which will be held in April this year. The Scholarship will be awarded to the male student who passes highest at the forthcoming examination, provided he is in a position and willing to accept it. He must be between the ages of eighteen and twenty-two years, and must study gardening, for one year at least, in the society's garden at Chiswick.

Novelties.

The "Shasta Daisies," raised by Mr. Luther Burbank, Santa Rosa, California, have been produced by first combining the weedy but free flowering American species with the rather large, but coarse, European species and the Japanese species (*Nipponicum*), after which rigid selection through a series of years produced the present beautiful strain, which it is felt by all who have seen it is destined to be a popular and widely grown flower. The white Shasta is only the first of the new type. The blooms when cut are said to remain perfectly fresh and in good condition for two weeks or more. They are very large and handsome.

Edinburgh Horticultural Societies

It is not generally known, and confusion is rife thereby, that in Edinburgh there are two horticultural societies, namely (1). the Royal Caledonian Horticultural Society, and (2). the Scottish Horticultural Association. The former was founded in 1809, the latter only twenty-five years ago. In the earlier decades of its career the Royal Caledonian had an equal, or greater, influence on horticulture than the (Royal) Horticultural Society of London. Its earlier published transactions are valuable records. It primarily had an experimental garden, but this was abolished long, long ago. The secretary is Mr. P. Murray Thomson (Solicitor before the Supreme Courts), 5, York Place, Edinburgh. The hon. secretary of the Scottish Horticultural Association is Mr. P. Loney, 6, Carlton Terrace, Edinburgh.

Richard Dean Testimonial.

The Richard Dean Testimonial of Tuesday evening last, will go down to posterity as a prominent historic event in the annals of Horticulture. All our readers are aware of the active efforts during the past two months of those members of the Trade who formed the Testimonial Committee, and it must be of the highest satisfaction to everyone of the 300 subscribers to know how very successfully the transaction has been accomplished. The presentation was made after dinner at the Royal Aquarium, by William Cuthbertson, Esq. (Dobbie and Co.), before an assembly of over fifty friends. Both N. N. Sherwood, Esq., and W. Marshall, Esq., through illness were prevented from officiating in the chair, but that important office was performed well. Mr. Cuthbertson spoke words that were manful, full of thought, and kind. The occasion was made impressive, and during the presentation ceremony one could have heard a pin drop. Amid great cheering, the beautiful illuminated address on vellum, with each subscriber's name inscribed, together with the monetary gift, was presented to Richard Dean, the doyen of English floriculture. For some time the honoured guest remained seated. Then he rose, and uttered a short phrase, "Gentlemen, there are times when the heart is too full," and indeed his was. Emotion overcame him: he sat down and covered his face with his hands. After a moment's quietness Mr. Dean had composed himself, and only the shortness of our space debar us this week from reporting the most interesting sketch of his career, briefly delivered by himself, and which elicited steadfast attention. Many other speeches followed from Messrs. E. Sherwood (who ably returned thanks to the toast given to his absent father, and stating that this much-beloved gentleman is once again convalescent), Thos. Bevan, — Harrison (of Leicester), R. Sydenham, H. J. Jones, J. W. Wilkinson, Edward Owen Greening, R. Hooper Pearson, and Charles H. Curtis, and all were appropriate and of a high order of merit. We trust to detail the proceedings more fully in next week's Journal.

Royal Appointment.

Messrs. Daniels Bros., Norwich, inform us that they have been appointed seed growers, by Special Royal Warrant, to His Majesty the King.

Irish Gardeners' Association.

On Tuesday, January 28, an interesting lecture, entitled "Nitrate in the Garden," which was illustrated with limelight views, was delivered under the auspices of the Irish Gardeners' Association in the X.L. Café, Grafton Street, Dublin, by Mr. John Simpson.

Appointments.

Mr. P. Clinch has just been appointed as gardener to Mrs. Barry, Scribblestown Park, Cardiff's Bridge, Co. Dublin. * * Mr. John Michie, for many years head forester on His Majesty's estates at Balmoral, as factor there, in place of Mr. James Forbes, who has assumed charge as factor of Atholl estates.

Weather in the North.

From the 25th ult to the 1st inst. severe frost prevailed, and the whole country was under snow. On the morning of the 30th 27deg of frost were registered, 22deg and 13deg on the two succeeding mornings. An imperfect thaw began on Saturday night, continued throughout Sunday, and a more decided change during the following night removed nearly all the snow from the lower levels. This held over Monday.—B. D., S. Perthshire.

Sussex Weather.

The total rainfall at Abbots Leigh, Haywards Heath, for January, was 1.06in, being 1.12in below the average. The heaviest fall was 0.36in rainfall on eight days. The maximum temperature was 52deg on the 1st and 2nd, the minimum 22deg on the 22nd. Mean maximum, 45.06deg; mean minimum, 35.25deg; mean temperature, 40.15deg, which is 2.82deg above the average. February 1 very cold, with indications of snow.—R. I.

Devon and Exeter Gardeners.

Mr. G. C. Crabbe last week read an interesting paper to the Devon and Exeter Gardeners' Association, at Exeter, on "The Chrysanthemum as a Cottagers' Plant." Mr. S. Baker, gardener to Sir Dudley Duckworth-King, presided. The result of the competition for the best three table foliage plants in 5in pots was: 1, Mr. E. C. Cole, gardener to Mr. W. B. Heberden, C.B., Elmfield; 2, Mr. W. R. Baker, gardener to Lady Duckworth, Knightleys.

R.H.S. Rose Conference.

It is now well known that Tuesday and Wednesday, June 24 and 25 next, have been fixed as the dates on which the conference on Roses, together with an illustrative show of flowers, will be held at Holland House, Kensington, W. All classes of plants, flowers, and fruits may be exhibited. The Fruit, Floral, and Orchid Committees meet at 11 a.m. on June 24, the Council at 12 noon; the exhibition will be open at 12.30 p.m.; at 1 p.m. the Council will entertain the committees and other invited guests to luncheon; at 2 p.m. the show will be open to the public; and at 2.30 p.m. the conference assembles. A schedule including twenty-seven classes has now been published, and will be found in the society's Arrangements book for the present year. The Very Rev. the Dean of Rochester, D.D., has been invited to act as president of the conference, and thirty-two others will take special part in the proceedings.

The Waterford Horticulturists.

The interest of district gardeners and those who might be expected to assist the Waterford Horticultural Society is recorded in the last annual report sent to us by the secretary, as decidedly unsatisfactory. True, the society has a balance in hand of £17 7s. 8d., but £10 of this sum is to be spent in the purchase of a new silver Challenge Cup. It has been by dint of unceasing hard work and solicitations on the part of the secretary and the treasurer during a few years past that success is at present attending the Waterford Horticultural Society. We saw how difficult it was to re-elect the secretary—he had had almost enough of past worry—and the treasurer would not at all consent to be reinstated. Let us hope Waterford will be more energetic, and rally to the assistance of the honorary secretary and treasurer respectively. The schedule for the forthcoming show, on November 7, is already published, and may be had from Mr. D. Cantwell, hon. secretary, Terminus House, Waterford.

Southampton Gardeners.

The annual general meeting of the members of the R.H.S. of Southampton will be held, by the kind permission of the Mayor, in the Mayor's Parlour, Municipal Offices, on Tuesday, February 11, at four o'clock in the afternoon. The Worshipful the Mayor will preside.

Mr. John Robertson.

Within the Atholl Arms Hotel, Dunkeld, a short while ago, a deputation from the tenantry on the Atholl Estates waited on Mr. John Robertson, who has occupied the position of factor and commissioner to the Duke of Atholl for the long period of thirty-eight years, and presented him with a complimentary address.

Edinburgh Spring Flower Show.

The first flower show of the year, to be held in Edinburgh, takes place on May 7 and 8, under the auspices of the Royal Caledonian Horticultural Society. No entry money is charged, and free admission tickets are not given to exhibitors. £600 in prize money are offered for competition at the two shows of the society—the one in May and the other in September.

Kew Gardeners' Social Evening.

The annual social evening of the Royal Gardens (Kew) staff was successfully carried through on Thursday last, a week to-day. Indeed, so creditable was the whole "show" that some of the young Continental friends who are employed at Kew as gardeners were strongly desirous to have another such social evening, after having enjoyed that of last Thursday. Songs, character sketches, instrumental music, and dancing engaged the attention of a large assemblage.

Prickly Pear as a Pest.

The Department of Agriculture in Queensland, the "Standard" announces, has resolved to offer the substantial reward of £5,000 for the discovery of a means of eradicating the Prickly Pear (*Opuntia*). A proviso will be made that the cost must not exceed a certain sum per acre, and the Department will have to be satisfied that the means adopted are efficacious. As it is, the Department has a process evolved from the experiments at the Westbrook State Farm, but the cost per acre is too great.

Winchester Gardeners'.

A meeting was held at the Market House, Winchester, on Friday, January 31, 1902. Mr. Geo. Garnier, of Cadlands Park, Southampton, gave a very interesting lecture on the "Culture of Peaches and Nectarines," which he dealt with in an able and practical manner. A long discussion then followed. The chairman (Mr. G. Street) passed a hearty vote of thanks. He thought the lecture very practical and instructive, and hoped on a future occasion to have the pleasure of hearing Mr. Garnier on some other subject.—S. C., Hon. Secretary.

Highgate Chrysanthemum Growers.

The secretary of the Highgate Chrysanthemum Society writes: "We are making grand progress towards our schedule for our next exhibition, and you will see by enclosed report that we shall make a novel feature of a floral display on the floor. I have every reason to believe that our exhibition will be the largest and best ever held in North Middlesex, and when I tell you that Mr. Bevan and Mr. Witty (the chairman and vice-chairman of the N.C.S.) have given me their support and aid, it will be sufficient guarantee that the show will be an unqualified success."

January Weather at Belvoir Castle, 1902.

The wind was in a south-westerly direction fourteen days. The total rainfall was 1.25in—this fell on eleven days, and is 0.53in below the average for the month; the greatest daily fall was 0.48in on the 4th. Barometer (corrected and reduced): Highest reading, 30.877in on the 31st, at noon; lowest reading, 29.067in on the 2nd, at 9 a.m. Thermometers: Highest in the shade, 53deg, on the 3rd, 4th, and 10th; lowest, 20deg, on the 15th; mean of daily maxima, 45.48deg; mean of daily minima, 34.64deg; mean temperature of the month, 40.06deg; lowest on the grass, 18deg on the 15th; highest in the sun, 88deg on the 9th; mean temperature of the earth at 3ft, 40.61deg. Total sunshine, fifty-three hours, which is 6h 29m below the average for the month. There were nine sunless days. The barometer reading on the 31st at noon is the highest recorded since January 9, 1896.—W. H. DIVERS.

Societies.

National Chrysanthemum.

Annual General Meeting.

Sir Albert K. Rollit, M.P., president of the above society, most ably occupied the chair at the annual general meeting, held in the Strand, last Monday evening. About eighty persons were present, and the characteristic caustic speeches indulged in only at N.C.S. annual meetings, according to our experience, were once again painfully plentiful. What Sir Albert Rollit thought we can only surmise; but though he came to the meeting understanding that the business was to be purely formal, he stated that it had proved the antithesis of that. Only a strong-minded and well-trained conductor of business could have enacted the work of the evening in one hour and a half as Sir Albert did, and, indeed, there were some who regretted that matters had been so much "rushed."

The usual notices having been read, the report came on and was swiftly passed, no one having a word to say. Owing to a desire expressed in a letter to the secretary by one of the auditors, Mr. Tagg, that the accounts and balance-sheet be held till later in the evening to allow of Mr. Tagg's presence, these were not immediately passed. As, however, the said auditor had not arrived when the balance-sheet was again presented, this, too, was adopted, and no one spoke one way or the other. True, Mr. Thos. Bevan rose and had a word regarding the signing of accounts by the auditors, but this matter was referred to the executive committee. Owing to the amount of matter we must print, it is necessary to omit any detailed account of the balance-sheet. £230 were received as subscriptions during the year, being a decrease of £27 as compared with 1900. There is a loss of about £45 on the year's working. A balance, however, of £200 17s. 11d. of assets over liabilities is on hand to go on with. The report, as under, appeals for increased support during 1902:

Report of the Executive Committee.

"In presenting their record of the year's work of the society, the first words of the committee must be expressive of the deep sense of loss felt by them and the body of members through the death of the venerable President of the society, Sir Edwin Saunders, in March last. His great age and increasing infirmities prevented him from visiting the exhibitions of the society for a year or two previous to his death; but he ever felt a warm interest in the society, and he very generously supported it by his liberal gifts of the President's Prize, and in other ways. Some of the officers and members of the society were present at his funeral, and a memorial wreath was duly forwarded to Fairlawn. Arrangements have been made for commemorating the great services rendered to the society by the late President, through the institution of a Sir Edwin Saunders Memorial Gold Medal.

"The committee have the gratification to announce that Sir Albert K. Rollit, M.P., has accepted the presidency; he visited the November exhibition, and shortly after presided at the annual dinner of the society, at the Holborn Restaurant. Those who attended the dinner will long remember the occasion of the President's public introduction to the society, and the transcendent ability with which he discharged the duties of chairman. Over two hundred persons, representing the various interests in horticulture, sat down to dinner on this occasion. The committee owe a great debt of gratitude to those members and friends who sent in flowers for the decoration of the table, and fruit for the dessert; and particularly to Messrs. H. J. Jones and W. Cutbush and Son for the loan of plants, the presence of which greatly enhanced the appearance of the dining hall.

"The committee can congratulate the members upon the sustained interest in the Chrysanthemum, and in the three very fine and attractive exhibitions held at the Royal Aquarium during 1901. There are no indications that the Chrysanthemum has ceased to be in any degree a popular exhibition flower; the quality of the blooms staged, despite certain antagonistic incidences of weather, has been maintained. The December exhibition in particular was remarkable for the numbers and fine quality of the incurved blooms; the single types and those varieties included in the Spidery section were seen in excellent character, as well as more extensively than in any previous year. On the whole the classes were well filled at the various exhibitions, in many the competition was very keen; the displays on the fountains maintained their high excellence; the vase classes were as great attractions as heretofore, the floral decorations varied and tasteful; the only perceptible falling off was in the classes for specimen plants. Some modifications of these have been adopted by the committee in the belief that there will be a larger competition next autumn. The entries in the Trophy class from affiliated societies were larger in number than at any time in recent years, and for the first time the trophy was taken to the West, having been won by the Cardiff Society. Fruit and vegetables were in fine character; and the committee can there-

fore look back with great satisfaction upon the three exhibitions of 1901.

"New varieties of Chrysanthemums have been produced in considerable numbers, and twenty-three First-Class Certificates of Merit, and four Awards of Merit, were voted by the Floral Committee, mainly to the Japanese section; the decorative and market varieties have been well represented. The classification committee have kept the incurved and other sections duly classified, and their work is much appreciated by the affiliated societies. The schedules of prizes have been revised in a few particulars, but in the face of the cost of the preparation of a new catalogue, which will be issued as soon as possible, the revision committee refrained from adding to the amount offered in the schedules of prizes.

"The annual outing in July last took the form of a visit to Downside, Leatherhead, Mr. Alfred Tate having granted permission to see his charming Rose garden, and advantage was taken of the contiguity of Cherkley Court to visit that place also, Mr. A. Dixon having kindly given permission to that effect. Mr. and Mrs. A. Tate generously invited the company to partake of tea at Leatherhead. Letters of warm thanks, and expressive of the great pleasure derived from visiting Leatherhead and Cherkley have been sent to Mr. A. Tate and Mr. A. Dixon. Arrangements have been entered into by the committee with the Directors of the Royal Aquarium to continue the exhibitions of the society at Westminster for the next three years, upon the same terms as have been in force during the past three years, and they place on record with great satisfaction their sense of the harmonious relations existing between the contracting parties. A deputation from the committee visited the Chrysanthemum Show held at Bingley Hall, Birmingham, and were hospitably entertained on that occasion.

"The present number of societies in affiliation is 139. Early in the year the committee, instructed thereto by the annual general meeting, distributed free to six affiliated societies by ballot a small silver medal. The recipient societies were the Barnet, Forest Gate, Isle of Thanet, Swansea, Torquay, and Wimbledon. This new departure has operated to bind more closely together the interests of the affiliated society to those of the parent society. The number of members at present on the books is 708, viz., 83 Fellows and 625 Ordinary Members. The financial statement shows that the society still maintains a steady average of income and expenditure, varying at times, owing to what may be termed unlooked-for demands on the funds. The society has had to experience during the past two years a somewhat serious loss of members, as also of affiliated societies, the latter having ceased to exist through lack of support in their several localities. What is most urgently needed is an accession of members during 1902.

"The Committee desire to express their indebtedness to those who so generously gave special prizes for competition at the society's shows during the past year; to Mr. G. H. Richards, Messrs. W. Wood and Sons, Messrs. E. Webb and Sons, Mr. C. W. Richardson, and also to Messrs. H. Deverill and R. Sydenham. These special prizes provide desirable and attractive features which would not otherwise be obtained; and it is with the greatest pleasure they are able to announce that the President, Sir A. K. Rollit, M.P., has most generously consented to continue the special first prize of £15 given by the late President, Sir E. Saunders, in 1901."

Election of officers: Sir Albert Rollit, as president; Mr. J. W. Moorman, as treasurer; Mr. A. J. Foster, chairman of executive committee; Mr. J. H. Witty, vice-chairman; Mr. Harman Payne, as foreign corresponding secretary; Mr. R. Dean, as general secretary; Mr. Geo. J. Ingram, as auditor, in place of Mr. W. Seward, who retires, having served two years. There were some sharp words uttered at this juncture owing to the secretary having proposed the new auditor. The following sixteen members of committee were elected, out of eighteen nominated: Messrs. R. Kenyon, 71 votes; J. W. Wilkinson, 68; H. J. Jones, 66; J. W. Simmons, 65; J. McKerchar, 63; James Tyler, 63; Geo. Prickett, 62; A. J. Foster, 58; D. B. Crane, 56; A. W. Seabrook, 55; C. H. Curtis, 51; Geo. Little, 50; J. Jones, 46; E. F. Hawes, 44; — Tapper, 43.

Following these elections, Mr. Young, a delegate from Dulwich Affiliated Society, inquired on a point of procedure. He had given the secretary due notice of a proposition he had intended to bring forward, which proposition the secretary had not placed on the agenda. Mr. Young's proposition referred to the selection of judges for the N.C.S. shows. Sir Albert Rollit, after considering the rules, said that under Rule IX. a delegate from an affiliated society is entitled expressly to vote on all matters except finance. They have the power to vote for the alteration of a rule, and such alteration may place them in a more satisfactory position for themselves. The notice sent to the secretary by Mr. Young was perfectly in accordance with the rules, and should have been placed upon the agenda. As it was not on the paper, though a hardship, Sir Albert must pass over the proposition on this occasion. Rules are rules, though,

those of the N.C.S. are hard to construe and inconsistent, were the chairman's observations.

The following addition was made to Rule III: "After 'the management of the society shall be vested in the officers of the society, viz.: A president, vice-presidents, treasurer, chairman and vice-chairman of the executive committee,' add 'general secretary and'; also line 6, after 'the president, treasurer, chairman, vice-chairman,' add 'general secretary.'" Mr. Dean, secretary, proposed these additions, and observed that that night he celebrated his twenty-first year of Fellowship of the Society. "In 1890," he continued, "you elected me as your secretary on the death of Mr. Wm. Holmes. I accepted the office on the same footing as Mr. Holmes had enjoyed. Till 1899 I had a vote at your committee meetings." He would rather, he said, have taken the secretaryship without fee than that they should have withdrawn his power to vote. He stood in his relation to this society as a managing director did to a large public company, and gave advice on all the matters pertaining to the business of the society. No change has taken place within the last ten years that he (Mr. Dean) had not proposed. He had maintained that the best interests of the society are bound up in continuing to hold the exhibitions at the Royal Aquarium. He maintained that as they took his 10s. a year he was entitled to a vote. He was well qualified to vote on any question that came before the committees. This year he would have voted against many of the flowers that had been awarded certificates. He appealed to the meeting to restore him to his former position among the ex-officio officers. Being seconded by Mr. Lake, the proposition was passed in remarkable silence. The following addition was proposed by Mr. J. McKerchar and seconded by Mr. J. T. Simpson: "Rule XIV. Schedule revision committee.—A sub-committee of the executive committee, consisting of nine members with the officers ex-officio, shall be appointed at the first meeting of the executive committee held after the annual general meeting, to revise the schedule of prizes and nominate judges, and report the same to the executive committee for approval."

This elicited many direct personal reflections, and party feeling ran high. Amongst the speakers were Messrs. Waterer, Weeks, Bevan, Ballantine, and Witty, all of whom severely criticised the proposition, and deemed it a most unwarranted reflection on the executive committee. On the other side Messrs. R. Dean, Mease, Lake, and a member unknown to us, supported the proposition. County members are continually "casting-up" the reminder that "You folks in London elect yourselves as judges at your own shows." It was pointed out that there are plenty of qualified men outside of N.C.S. circles who could act as judges. On the matter being put to the vote eighteen voted for it thirty-six against, being eighteen of a majority. The scrutineers of the ballot for committeemen (Messrs. Taylor, H. J. Cutbush, and Coles) now announced results given above, whence the meeting terminated.

Royal Scottish Arboricultural.

The forty-ninth annual general meeting of the above society was held at 5, St. Andrew's Square, Edinburgh, on the 31st ult., the president, the Earl of Mansfield, in the chair. There was a large attendance of members. The secretary (Mr. Robert Galloway) submitted the report of the council, which showed an addition to the membership of 102 new members, making a total of 917, including 244 life members. Eight medals for essays, &c., had been awarded during the past year. It was intimated that the directors of the Highland and Agricultural Society had again granted facilities for a Forestry Exhibition, to be held in the society's showyard, at Aberdeen, in July. The council expressed gratification at the formation of an Irish Arboricultural Society, and wished it every success. The financial balance for the year showed a credit of £315, and the invested funds amounted to nearly £1,100. This was considered satisfactory. The chairman expressed the hope that the succeeding year might prove as satisfactory as the last year had been. There was plenty of interest shown in the society, and he was anxious that they should arrange for facilities being given the younger members so as to enable them to take full advantage of the society in all respects. He was desirous, in continuation of the reports which had been made as to the interview so kindly granted by Mr. Hanbury a few months ago, to announce the note which our readers will find in "Notes and Notices" this week, regarding the departmental committee of inquiry into the condition of prospects of forestry here. Following office-bearers were elected for the ensuing year:—President, Earl of Mansfield; vice-presidents, Lord Lovat and Mr. John Methven, J.P.; Council, Mr. John Boyd, forester, Pollock Estate, Pollockshaws; Mr. James Forgan, forester, Bonskeid, Pitlochray; Mr. George Fraser, factor, Dalzell, Motherwell; Mr. D. P. Laird, nurseryman, Edinburgh; and Mr. William McKinnon, nurseryman, Edinburgh. It was agreed to increase the number of ordinary councillors from fifteen to twenty-one, and the following additional gentlemen were elected to the Council:—Sir Kenneth McKenzie, of Garloch; Mr. E. P. Tennant, of The Glen, Innerleithen; Sir John

Stirling Maxwell, of Pollock, M.P.; Mr. John Hay, Dollar's Estate Office, Kilmarnock; Mr. A. E. Richardson, Royal Botanic Gardens, Edinburgh; Mr. George Leven, Auchencruive, Ayr; and Mr. Charles Buchanan, Penicuik. Discussions on various forestry subjects followed, and was taken part in by many of the members present. The annual dinner was held in the Royal Hotel, and an enjoyable evening was spent there.—SCOTIA.

Hessle Gardeners.

Alfred Gaut, F.R.H.S., Horticultural Instructor to the Yorkshire College, Leeds, continuing his course of horticultural lectures before the members of the above society, which have proved considerably interesting to the residents of the town, on Tuesday, January 28, after dealing with the diseases and insects which are most injurious to fruit trees, he gave his audience the result of his wide and varied experience of fruit growing in Yorkshire, which was founded upon the fruit reports gathered by the lecturer from most of the best fruit growers in the county. A good discussion followed, in which Messrs. Hardy, Leadbetter, and Pieker took the most active part. Mr. Gaut will give his concluding lecture on February 4, on "Practice versus Science," at which it is hoped will be a most interesting discussion.—J. F. D., Yorks.

Chester Paxton.

"Cheshire Orchards" was the title of a paper read by Mr. John Taylor, of Hoole, at the usual fortnightly meeting, held at the Grosvenor Museum on Saturday. Mr. Taylor, who has made fruit culture in the county a special study, dealt with his subject in a very practical manner. A collection of Cheshire grown Apples and Pears, exhibited at the meeting, corroborated the statements of the lecturer, and showed that fruit of excellent quality, and possessed of long-keeping properties, can be produced in the county, provided that suitable varieties are selected, and proper cultural methods adopted. An animated discussion followed the reading of the paper, in which the chairman (Mr. Robert Wakefield) and others took part.

Scottish Horticultural.

The first monthly meeting of the session was held on Tuesday last, in Edinburgh, over one hundred being present. After preliminary business, Dr. Wilson, St. Andrew's, delivered a lecture entitled, "A Hybridist's Experiences." Dr. Wilson, Professor of Agriculture in St. Andrew's University, is very widely known as a successful scientific hybridiser. He kept his audience spell-bound for an hour, detailing his experiences over a wide field. With limelight illustrations he most vividly portrayed his many interesting experiences; his successes and failures. Amongst plants experimented on were Geraniums, Abutilons, Begonias, Orchids, Albus, Streptocarpus, Tritonias, Potatoes, Strawberries, Gooseberries, &c. He closed his lecture with a most interesting account of a visit to America, where he formed acquaintanceship with famous transatlantic hybridists. No more interesting or instructive paper was ever delivered to the association. On the motion of Mr. Mackenzie and Mr. Laird, a most hearty vote of thanks was accorded to Dr. Wilson. Mr. Waldie Lamont, Merchiston, exhibited some very pretty Cyclamen in pots, of fine habit and freely bloomed. It was intimated that the semi-jubilee celebration of the society would be held on March 21. A vote of thanks brought a wonderfully successful meeting to a close.

Reading Gardeners.

During the past month three meetings have been held in connection with the above association. The annual meeting on the 6th ult., when the report and balance-sheet presented to the members proved that the association during 1901 had experienced a record year with regard to the attendance, number of members, and financially. Over sixty new members were elected during the year. On January 20 the annual tea and entertainment took place, when over 120 sat down to tea, and about 600 members and friends were present at the entertainment. The first ordinary meeting of the new year took place on the 27th, when Mr. E. Fry, of The Gardens, Greenlands, Reading, read an exceedingly practical paper entitled, "A Chat on the Kitchen Garden." In introducing his subject, he asked the question, "Are we doing sufficient deep digging or trenching and do we manure enough?" He impressed upon the younger members the fact that it is a duty of every gardener to be able to supply vegetables for the table all the year round, and therefore they should not give all their thoughts to those things that grow under glass, but give a little to the kitchen garden if they wish to succeed in their vocation in the future. Cultural directions and varieties were given of those vegetables the lecturer had found to do well with him. His remarks were made far more interesting by the aid of an excellent series of lantern slides. A good discussion followed, in which Messrs. Stanton, Neve, Judd, Wicks, Exler, Townsend, Wilson, Prince, and Chamberlain took part. Mr. Townsend, of Sandhurst Lodge, exhibited some splendid blooms of *Primula obconica*. Two new members were elected.

National Sweet Pea.

Balance-Sheet for the Year ending January 24, 1902.

RECEIPTS.										£	s.	d.
To Subscriptions ...	...	...	...	...	...	...	...	...	...	79	4	6
" Donations ...	...	...	...	...	...	...	...	...	...	3	3	0
" Hire of Space at Show ...	...	...	...	...	...	...	...	...	...	1	1	0
" Special Subscription (Cooper, Taber & Co.) ...	...	...	...	...	...	...	...	...	...	3	3	0
" R. Dean's Account ...	...	...	...	...	...	...	...	...	...	8	0	6
" Hire of Bottles at Show ...	...	...	...	...	...	...	...	...	...	0	11	4
										£95	3	4
EXPENDITURE.										£	s.	d.
By Postages and Petty Cash ...	...	...	...	...	...	...	...	...	...	3	12	6
" Schedules and Advertisements ...	...	...	...	...	...	...	...	...	...	7	5	0
" Judges' Fees ...	...	...	...	...	...	...	...	...	...	5	5	0
" Cost of Prizes ...	...	...	...	...	...	...	...	...	...	47	3	0
" Stationery, &c. ...	...	...	...	...	...	...	...	...	...	3	5	0
" Luncheons to Judges and others ...	...	...	...	...	...	...	...	...	...	4	17	0
" Tickets for Show ...	...	...	...	...	...	...	...	...	...	2	10	0
" Hire of Vases and Paper for Show ...	...	...	...	...	...	...	...	...	...	1	18	0
" Statement per R. Dean ...	...	...	...	...	...	...	...	...	...	£8	7	7
										7	11	9
Cheque to balance, R. Dean ...	...	...	...	...	...	...	...	...	...	0	15	10
" Discount to Exhibitors ...	...	...	...	...	...	...	...	...	...	0	8	9
" Stamps in hand ...	...	...	...	...	...	...	...	...	...	0	0	4
" Bank Charges ...	...	...	...	...	...	...	...	...	...	0	4	9
" Balance at Bank ...	...	...	...	...	...	...	...	...	...	10	6	5
										£95	3	4

Audited, WM. SHERWOOD, January 22, 1902.

Ipswich Gardeners.

The second annual meeting of the Ipswich and District Gardeners and Amateurs' Mutual Improvement Association was held at the Co-operative Hall, Carr Street, on Thursday evening, January 30, for the election of president and other officers. Mr. Alan Turner presided. The committee feel that the association, by its usefulness, had more than justified its existence. The committee called the attention of employers to the work of the society, and suggested to them that increased knowledge meant greater efficiency in their gardeners, and on this account alone, they felt that they might confidently appeal for greater financial support from them. The thanks of the members were due to the Rev. Foster-Melliar for the pleasant afternoon spent in his gardens, and to Mr. Alan Turner, for the excellent tea which he provided for them; to Mr. J. D. Cobbold, for his kind invitation to Holy Wells Gardens; and to Lord de Saumarez, for kindly permitting the members to visit Shrubland Park and gardens, where a most enjoyable time was spent. The members were also much indebted to the Royal Horticultural Society for permission to visit their gardens at Chiswick, free of charge. On the motion of Mr. J. Morgan, the report was unanimously adopted, Mr. R. C. Notcutt remarking that they were much indebted to the gentlemen who had so kindly entertained the society during the past year, and thrown their grounds open for pleasant outings. The election of officers was then proceeded with, Mr. R. C. Notcutt being elected president.

West of England Chrysanthemum.

The annual meeting of the above society was held at Mutley on Wednesday, January 29. Mr. G. H. E. Rundle presided, and a good attendance included Mr. Charles Wilson (secretary), Mr. Amos Groombridge (hon. treasurer), and Mr. W. Damerell. In submitting the annual report, the secretary said that from the commencement the society had gone on increasing in popularity. The total receipts of the past year had exceeded those of any former year by over £13. There was an increase in the subscription list of over £3, with an increased gate of £10, the total receipts amounting to the very handsome sum of £305. The enlarged prize list of last year resulted in by far the best show the society had ever had, and over £107 was paid in prizes. Trade exhibits were now becoming of such great importance that the committee suggested that more encouragement should be offered, and that if necessary increased accommodation should be provided for that purpose. They would also recommend the advisability of altering the hour for the popular prices on the second day, when the crush was so great. If the time was altered to two o'clock instead of four, a very much larger number would then visit the show instead of waiting until the evening. The committee thanked the G.W.R. for issuing cheap tickets on the first day from all their stations west of Exeter, and hoped the experiment was of sufficient success to warrant them doing so again, and the donors of special prizes. They also returned thanks especially to Messrs. Sutton and Sons, of Reading, and Mr. R. Sydenham, of Birmingham. Thanks were also due to Lord Auckland, the President, and to Mr. Soltau-Symons, and Mr. G. Rundle. Mr. Amos Groombridge, treasurer, then read the balance-sheet. The accounts showed a balance in hand of £36 9s. 5d. on the year's working. The total expenditure was £271 4s. 6d. The society had placed to its credit, as a reserve

fund, £126 11s. 8d. Mr. Rundle, in moving the adoption of the report and balance-sheet, said both were very satisfactory. Mr. W. Abraham, in seconding, referred to the growth of the society, and declared his opinion there was nothing outside the National Show, London, which would equal the West of England Show. Mr. Henry W. Grigg was appointed president, Lord Auckland, and Messrs. J. M. and Robert Bayley were added to the list of vice-presidents. The following grants were made for services rendered: The secretary, £20; the treasurer, £5; and the chairman, £5. Before the meeting dispersed Mr. C. B. Delafield moved a vote of thanks to the exhibitors; Messrs. Reeves and Hart seconded, and the resolution was unanimously carried. The dinner was held at Matthews's Restaurant same evening, Mr. W. Damerell, chairman of committee, presiding. Mr. T. J. R. Challice, proposing "The Society," said the exhibition of the society was second to none in the West of England. He did not think they should confine their efforts to Chrysanthemums, but make it open to other winter blooming plants. Other toasts followed. During the proceedings Mr. Charles Wilson was presented with a cheque for £20, in recognition of his services as honorary secretary. The proceedings were interspersed with music.—("Western Mercury.")

Highgate and District Chrysanthemum.

A committee meeting of the above society was held on Thursday last, Mr. T. Bevan presiding. The judges for the next exhibition were nominated, and fifty-three new members were elected. The election of the Floral Committee then took place, and resulted as follows:—Messrs. Witty, Kirkwood, Adams, Webber, Mathews, Pannell, and Saunders, and the dates fixed were October 29 and November 10 and 17. The Secretary (Mr. W. E. Boyce) was elected Superintendent of the Exhibition, and Messrs. Bevan, Witty, and Saunders were elected Show Committee. The settling of the schedule was then considered, and the committee agreed to insert three classes, open to growers all over the country, to be called Special Coronation Classes, one to be for twelve vases of Japanese blooms, five blooms in each (prizes to consist of a silver cup, money, and medals), another to be for six vases of incurved blooms, five blooms in each (prizes to consist of money and medals), and the other to be made a leading feature of the exhibition, viz., a floral display of Chrysanthemums, any varieties, but must include Japanese, incurved, reflexed, and pompons, to be exhibited in pots or bottles, with Ferns, Grasses, and other foliage (in pots or cut) at will, in an oval space of 20ft by 14ft. Prizes—1st, £10 10s. and Silver Gilt Medal; 2nd, £7 7s. and Silver Medal; 3rd, £4 4s. and Bronze Medal; 4th, £2 2s. and Bronze Medal. Each exhibitor will have a floor space to himself. Nothing in this exhibit to exceed 4ft in height. Classes were also settled for fruit, and a class inserted for ladies for a floral decoration of Chrysanthemums, &c. Special prize offered by Mr. H. Weeks was accepted, and the secretary stating that he had numerous other special prizes, the further consideration of the schedule was adjourned until the next meeting of the committee.—W. E. B.

Birmingham Gardeners'.

"The Resting Period of Plant Life" was the subject selected by Professor W. Hillhouse, M.A., F.L.S., Birmingham University, at the initial spring session of the Birmingham Gardeners' Mutual Improvement Association on January 27, as his presidential address for the year 1902. The "resting period" of plants, though a very complex one to define, was treated with the lecturer's characteristic ability and erudition in a most lucid and attractive style. Several illustrations were adduced to prove that under normal conditions plants are never absolutely at rest, but only comparatively; and so, likewise, regarding the vitality of the seed of plants, even when kept in a perfectly dry state, as proved by artificial experiment. In the discussion which followed, the lecturer was requested to explain why hedges of Beech trees subjected to the pruning shears usually retain their leaves throughout the winter, also the saplings, while the unpruned large trees shed them in the autumn. In referring to the vitality of long deeply buried seeds, the long debated, but now exploded, theory of "Mummy" Wheat and Peas was brought under observation; also the story of the sudden appearance of a crop of Poppies and of Henbane on sites where such had not been known to exist before, until the removal of the soil some considerable depth below the surface. The appearance also of an extensive plantation of Furze (*Ulex europæa*) and Broom (*Cytisus scoparius*) on the bank of a large local gravel pit a few years ago, though for a series of untold years past the original surface had been pasture land, and no evidence of a pre-existence of the plants in question. A hearty vote of thanks was unanimously accorded Professor Hillhouse for his instructive lecture. Several new members were elected at this meeting, and the annual tea and social gathering was announced to take place at the Colonnade Hotel on February 15.—G.

Obituary.

The Late Mr. David Syme.

"At New York, Lincolshire, suddenly, on January 25, David Syme, managing director of Peter Layson and Son, Limited, Edinburgh."

This somewhat curt announcement in the "Scotsman" newspaper, of Monday, January 27, was read by many, especially of the older, members of the seed and nursery trade with a feeling of deepest regret. Few men in the trade have so long occupied a prominent position and been so warmly beloved as the late David Syme. He served his apprenticeship to the seed trade in Glasgow, with Messrs. J. and R. Thyne, a fellow-apprentice being the world-wide-known Peter Barr, of Daffodil fame, the two having always afterwards maintained a warm friendship. After varied and educative business experiences in Glasgow, Mr. Syme entered the service of Messrs. Peter Lawson and Son, Edinburgh, about forty years ago, and soon afterwards undertook the management of their extensive nurseries, at that time probably the most noted for general nursery stock in the three kingdoms. Their name and fame was worthily maintained under Mr. Syme's régime, who later assumed management of their world-wide seed business. When the firm came to grief over unlucky speculations outside of the seed trade, through the exertions of Mr. Syme the business was formed into a company in 1872, and has since been successfully carried on under his spirited oversight. Latterly the nurseries were abandoned, and the energies of the company concentrated on the wholesale seed business, which possesses a very wide connection over the three kingdoms, the Continent, and America.

Of late years Mr. Syme has been less known to gardeners than of yore, when few horticultural gatherings were complete without his genial presence. Mr. Syme possessed a very varied knowledge of horticultural, arboricultural, and agricultural subjects, few men knowing ornamental trees and shrubs better than he, while his intimacy with Grass, Clover, and Turnip seeds was unique. He was an acknowledged authority on these, and his services were frequently called in as arbiter in intricate trade disputes. About six years ago, at his jubilee as a seedsman, the trade entertained him to dinner in London, and presented him with a handsome service of silver plate as a memento of the occasion and as a token of the warm place he held in the affections of those who knew him best.

Apart from his knowledge of the seed and nursery trades, Mr. Syme was a great social force, a man of very varied and extensive intelligence, whose conversation, brimful of wit and humour, and always expressed in terse, elegant language, as he would tell of his many interesting experiences, of his many sojourns, and of the people of all grades, from princes downwards, whom he had met, was always charming. He was a ready and eloquent public speaker, full of apt illustration and anecdote. Many will now recall with melancholy pleasure the very enjoyable evenings spent in the old dining-room of Bungholm House, and at his later residences, where he dispensed liberal hospitality, and where every guest felt under his magic spell through his always kindly welcome.

Mr. Syme died in his seventy-third year, and enjoyed fair health till his death, though the end came with startling suddenness. Many thought him older because they had known him so long, but for enthusiasm and youthfulness of spirit he was one of those who never grow old. His friends will deeply lament his death, and feel that a sunbeam has passed out of their lives never again to brighten.

Heaven rest his soul, where'er he be
Is the wish o' monie mair than me;
He had twa fauts, or maybe three;
Yet what remead;
Ae social, honest man want we;
King David's dead!

T. M. E.

An Observer's Notes.

Under this heading there are many short interesting notes our readers might send.

FEBRUARY 7-13.

PLANTS DEDICATED TO EACH DAY.

Fri. 7	Small eft seen in ponds.	Narrow Spring Moss.
Sat. 8	Wild Goose, or Grey Lagg, goes.	Roman Narcissus.
Sun. 9	Sea Curlew goes.	Mezereon (white).
Mon. 10	House Pigeon lays.	Red Primrose.
Tu. 11	Primrose flowers.	Common Hepatica.
Wed. 12	Partridge pairs.	Polyanthus.
Thrs. 13	Golden-crested Wren sings.	Yellow Crocus.

Writing from Roscrea, co. Dublin, Mr. R. Miller mentions both Primroses and wild Strawberries as being in flower there.

Snowdrops in the open air are quite plentiful at Kew. Crocuses are also gay.—R.

A pair of sparrows have commenced nesting operations under the roof of a house at Townsend near Dorchester. Primroses and Violets in bloom have been gathered on the outskirts of the town.—D. C. C.



Hardy Fruit Garden.

APRICOTS.—The pruning, training, regulating, and final cleansing of trees on walls should now be dealt with, as if mild, sunny mornings occur frequently, the buds will swell rapidly, and the trees, especially on favourably situated walls, will soon begin to open their flowers. This, however, is not encouraging to the cultivator, as early flowering may prove most disastrous to the prospects of a crop of fruit. The pruning and training which is best carried out during the present month, should not, at all events, either encourage or retard the flowering period. It is a case of dealing with the trees at a convenient time, before the various kinds of buds begin to swell, when they are liable to be easily detached. In pruning Apricots on walls there will be, most likely if the trees are old, a number of useless branches. These should be removed, even at the risk of the trees gumming, as they are liable to do. With younger trees the pruning and training should be such that there is little need for taking out any of the principal branches; but if unduly crowded, it is better to remove a branch or two here and there annually, leaving all cuts smooth. The reduction of young shoots may next take place. Those on the lower sides of the branches particularly may be freely dispensed with, though some may be shortened to a few buds, so that they may form artificial spurs. On the upper sides young growths may predominate, though it is well not to crowd, the surplus being either cut out entirely or left sufficiently short to form spurs. Natural spurs are also produced on the Apricot, and these are always to be preferred to the artificially formed. In laying in young shoots, they usually need a little shortening, but it must be given either at a single wood bud or at a triple bud. Wood growth is necessary above the fruiting portions of shoots.

PLANTING GOOSEBERRIES AND CURRANTS.—Young bush trees in the open, and cordons against walls or for training on a wire fence, may be planted now, providing the ground is not too wet. If so, it will be better to wait a short time, until the surface of the soil dries. The trees may be planted on the richest ground available, a deeply dug and well enriched plot always being the best for these fruits. Plant bushes 6ft apart.

RASPBERRIES.—Wherever there is a well established plantation of vigorous plants, there are sure to be plenty of suckers which can be utilised for forming a fresh plantation. The best planting canes are not the strongest looking, but those freely furnished with abundance of fibrous roots. Richly prepared soil is the best for Raspberries. Plant in lines or clumps. By the former plan place the lines not less than 5ft apart, and the young canes a foot asunder. Clumps should be 4ft apart, placing three plants in each, and training to a central stake. To insure future success, cut the newly planted canes down to the ground, thus encouraging strong growth the first season.—LYMINGTON, HANTS

Fruit Forcing.

VINES—EYES AND CUT-BACKS.—Eyes may now be inserted, using pots, pans, or square pieces of turf. Select plump buds on firm, well ripened wood, filling the pot or pan with rich, friable loam; insert the eyes with a pinch of silver sand, and about half an inch beneath the surface; plunge the pots in a bottom heat of 80deg. Cut-backs should be placed in a house where they will have a temperature of 60deg to 65deg at night, and 70deg to 75deg by day. When they have started into growth shake them out, and return to the same size of pot, using friable loam, and give a rather close and moist atmosphere until re-established, when they should have a position near the glass, so as to insure sturdy, short-jointed, thoroughly solidified growth.

EARLIEST FORCED VINES.—The Vines in flower must have a temperature of 60deg to 65deg at night, and 70deg to 75deg by day artificially. Keep the atmosphere somewhat drier by free ventilation, leaving a little air on at night, yet keeping the floors sprinkled three times a day during bright weather. Any shy-setting Grapes may have the pollen distributed by brushing the bunches with a camel's-hair brush. Stop the laterals at the first leaf, and keep those pinched to one joint throughout the season, but those beyond the bunch may be allowed to make two or more joints before stopping them, provided there be space for the full exposure of the leaves to light. Avoid overcrowding the foliage; it is better to reduce the laterals than do that.

HOUSES STARTED AT THE NEW YEAR.—The Vines are now in leaf and showing fruit. Dishud when it is seen which shoots are likely to afford the best bunches. One bunch on a spur is as much as is likely to finish satisfactorily, but, if there

the space, two shoots may be left, it being clearly understood that only one is to be allowed to carry fruit, the duplicate only remaining until choice can be made of the best, and in case of two shoots being left, one ought to be near the stem, so as to keep the spur as short as possible. Weakly Vines, however, may be given more latitude, so as to secure stouter wood, larger and plumper eyes, and better bunches in future.—ST. ALBANS.



* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

PRIMULA LEAVES CURLED AND SPOTTED (F. H. P.).—

The older and large leaves are quite healthy, indeed, very fine, but the younger ones are what is known as rusted, curled, crippled, and spotted, the brown spots and the damage generally being caused by a mite, not unlike a thrips in form, but smaller, and not by any means easy to find. It is very injurious by its piercing of the tissues to abstract their juices, its action being very pernicious, giving a stunted and rusted appearance to the leaves, prejudicing, and often preventing, the flowering. It is the same pest that causes rust in Gloxinias, Gesneras, and Begonias; also other plants grown under glass, especially those with hairy and somewhat thick leaves. It is a species of *Tarsonymus*, and because found in Gloxinias, Begonias, Pelargoniums, &c., has been given the specific name of the plants. It is not different from the species that affects Box in hot and dry places, namely, *T. buxi*. The best treatment is syringing with tobacco water at intervals of about four days, which either kills the pests or drives them away. We have found this better than fumigation with tobacco paper or vaporisation with nicotine compound at short intervals, though this procedure has a very decidedly deterrent effect on the destructive creature. Perhaps a little fertiliser would have a good effect on the plants, such as a mixture of three parts superphosphate, two parts powdered saltpetre, and one part sulphate of lime, mixed, using about a thimbleful to each pot, mixing with a little soil, and keeping from the necks of the plants.

SPOTS ON CHRYSANTHEMUM LEAVES (Mummer).—The leaves are infested with the *Chrysanthemum* rust in the uredospore condition, and then known as *Uredo tanacetii*, and in the telentospore stage as *Puccinia tanacetii*, though some fungologists consider the uredo as belonging to *Puccinia hieraci*, probably from the telentospore stage not being observed by these observers in the *Chrysanthemum*, which was generally noticed in this country and in France in 1897. There is no question of its being quite new to the *Chrysanthemum*, and of its being first noticed on the variety *Niveum* in the United States, and in all probability was introduced from America into Europe. It was very prevalent in 1898, especially in the uredo or summer fruit condition, in which it forms minute, snuff-coloured clusters of spores on the under surface of the leaves, and in badly affected cases the pustules are often so numerous as to cover the greater surfacial part of the leaves. This stage, unless checked, is rapidly reproduced, and extends itself throughout the summer months, indeed, throughout the year, owing to the *Chrysanthemum* plants being kept under glass during the winter months. When the leaves are fading the telentospore form of fruit is produced, which differs from the uredo form in the pustules being darker in colour and not powdery. The disease may be kept in check by spraying at intervals with potassium sulphide solution, dissolving 1oz of the sulphide in a quart of hot water, then make up to 2½ gallons with cold rain water. As the pustules are situated on the under side of the leaves, the spraying must be upwards so as to wet them, or in the case of small plants, they may be dipped in the solution. The removal of affected leaves as soon as the first appearance of the pustules is noticed, and before the cuticle of the leaf is broken, and burning them, is, however, the surest mode of riddance. Some growers destroy all affected plants, and commence anew with perfectly clean cuttings or plants. This is often impracticable, therefore repressive measures must be promptly taken, and with close observation and persevering treatment the disease may be overcome. Veltha Emulsion, advertised occasionally in our columns, has been used effectively for preventing or destroying *Chrysanthemum* rust, and is also good against other fungous and insect pests to which *Chrysanthemums* are liable.

NAMES OF FLOWERS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (H. J. C.).—*Lonicera fragrantissima*, the smaller flowered one; *Chimonanthus fragrans grandiflora*, the one with purple centre. Why not number your specimens? (A. G.).—*Lælio-Cattleya Pallas*.

Trade Notes.

To the nurseryman who hugs the outskirts of large cities (and for obvious reasons most firms are under this necessity), the builder and the prospector for a suitable site for a suburban residence are a continual dread. From the latter cause the firm of Mr. John Downie, Beechhill, Murrayfield, N.B., were about a year ago relieved of the ground which they had leased adjoining their Beechhill Nursery. Simultaneously with this loss, however, they had contracted for a long lease of Belgrave Park, situated on the high grounds of Corstorphine Hill, overlooking the village, and immediately above the new station, from which it is about ten minutes' walk. This ground, which is laid out in the usual convenient nursery system, is, from its situation, exposure, and soil, admirably suited for the production of hardy well rooted stock. This comprises fruit trees and bushes in great variety, including the newer ones, such as Comet, Red Currant, Victoria, and Boskoop Giant Black Currant; May Duke, Langley Gage, and Beauty Gooseberries; Apples, Allington Pippin, Bowhill Pippin, James Grieve, Charles Ross. Roses also appear to be about to receive careful and extensive cultivation; a fine lot of several thousands which were budded last autumn appear to be in good condition, and from the healthy and vigorous look of the stocks should make splendid plants by autumn. A general nursery stock of trees and shrubs, large and small, too numerous in variety to mention by name, occupies the remainder of the ground. An office and packing shed is built in a convenient part, and behind these are several ranges of frames filled with cuttings of Conifers, shrubs, &c. As already mentioned, the nursery is within easy access of Corstorphine Station, on the new suburban railway, which is to be opened by the beginning of February. It is also to be connected by telephone with Beechhill, which is at present in communication with the offices at 144, Princes Street. This extension of telephone should have been completed some time ago, but the increased demand made upon the Telephone Company through the laying of underground wires has made it impossible for them to overtake their usual extension work.—SCOTIA.

Messrs. E. C. Walton and Co., Muskham, Newark, as manufacturers of bungalows, cottages, isolation hospitals, portable wood and iron buildings, pavilions, conservatories, poultry houses, &c., have sent us their new price list of these and other objects, the making of which constitutes their business. This list, or catalogue, is admirably illustrated, and amongst other articles not above referred to we may note garden seats in all forms and at various prices, folding tables, lattissteps, roofing felt, gas-heating apparatus, forcing pits and conservatories, motor-car houses, barrows, arches, rollers, gates, hurdles, and such other things. The list is sent post free on application to Messrs. Walton and Co.

The Native Guano Company, Limited, 29, New Bridge Street, Blackfriars, London, E.C., are able yearly to issue a publication extending to about 70 pages, and which is composed of testimonials as to the good results derived from the practical application of Native Guano in field and garden. The booklet for 1902 is to hand. Reports are included from every part of England, also the Channel Islands, Wales, and Scotland. Among the crops indexed, we may notice Cereals, Turnips, Mangolds, Brassicas, Leguminosæ, Onions, Tomatoes, fruit trees, Strawberries, Vines, *Chrysanthemums*, lawns, Roses, and Cucumbers. Writing from Rochester, Mr. T. Titley (fourth order) says: "Used for Roses, Pansies, Gladioli, Sweet Peas, &c.; vegetables: Potatoes, Kidney Beans, Celery, &c.; fruit: Apples, Gooseberries, Raspberries, Strawberries. Splendid results in every instance. Very large crops Potatoes, Beans, &c., flowers splendid. I have used no other kind, and am more than satisfied with your Native Guano. I sold some to my neighbours, and they all speak very highly of it and intend using it again."

Trade Catalogues Received.

Thos. Davis & Co., Wavertree, Liverpool.—*Seeds*.
Dobie & Mason, Seed Growers and Merchants, 22, Oak Street, Manchester.—*Seeds*.
J. Lambert & Son, Nurserymen, Trier, Rhine Province, Germany.—*General Catalogue*.
Robertson (Hogg & Robertson), 22, Mary Street, Dublin.—*Seeds*.
John Russell, Richmond Nurseries, Richmond, Surrey.—*Seeds*.
Louis Van Houtte, Père, The Royal Nurseries, Ghent, Belgium.—*Novelties, Plants, &c.*

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass
1902.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
January and February.										
Sunday ...26	S.W.	deg. 34.0	deg. 32.6	deg. 39.6	deg. 31.8	Ins. 0.18	deg. 38.5	deg. 43.0	deg. 45.0	deg. 23.2
Monday ...27	S.W.	39.8	39.5	47.8	31.8	—	38.1	42.0	45.0	31.8
Tuesday ...28	W.S.W.	40.7	38.6	45.4	39.5	—	39.9	42.0	44.9	32.0
Wednesday ...29	N.N.W.	32.0	28.2	38.1	29.5	—	38.9	42.2	44.8	22.9
Thursday 30	N.	32.2	31.7	38.1	29.5	0.03	37.2	41.5	44.7	24.1
Friday ...31	N.E.	36.7	34.5	37.2	33.0	—	36.4	41.0	44.5	25.6
Saturday 1	E.N.E.	34.4	32.3	34.0	32.3	—	36.2	40.5	44.3	26.0
MEANS ...		35.7	33.9	40.0	32.5	Total. 0.21	37.9	41.7	44.7	26.5

The weather continues dull and very cold, with heavy gales of wind from the north-east at the end of the week.

Covent Garden Market.—February 5th.

Average Wholesale Prices.—Plants in Pots.

Most of the undermentioned plants are sold in 48 and 32-sized pots.

	s. d.	s. d.		s. d.	s. d.
Aralias, doz. ...	5 0	to 12 0	Ficus elastica, doz. ...	9 0	to 12 0
Araucaria, doz. ...	12 0	30 0	Foliage plants, var, each	1 0	5 0
Aspidistra, doz. ...	18 0	36 0	Grevilleas, 48's, doz. ...	4 0	5 0
Azaleas, white and coloured, doz. ...	30 0	36 0	Lycopodiums, doz. ...	3 0	0 0
Crotons, doz. ...	18 0	30 0	Marguerite Daisy, doz. ...	8 0	10 0
Cyclamen, doz. ...	9 0	10 0	Myrtles, doz. ...	6 0	9 0
Cyperus alternifolius per doz. ...	4 0	5 0	Palms, in var., doz. ...	15 0	30 6
Dracæna, var., doz. ...	12 0	30 0	„ specimens ...	21 0	63 0
Dracæna, viridis, doz. ...	9 0	18 0	Pandanus Veitchi, 48's, doz. ...	24 0	30 0
Erica hyemalis ...	9 0	10 0	Primulas ...	3 0	4 0
„ „ alba ...	10 0	12 0	Shrubs, in pots ...	4 0	6 0
Ferns, var, doz. ...	4 0	18 0	Solanums ...	8 0	10 0
Ferns, small, 100 ...	10 0	16 0	Spiræa japonica, 48's, doz. ...	10 0	12 0

Average Wholesale Prices.—Cut Flowers

	s. d.	s. d.		s. d.	s. d.
Acaëia "mimosa," pad	6 0	to 8 0	Lilium l. rubrum ...	2 0	to 2 6
Anemone, double pink, per doz. ...	1 6	0 0	„ longiflorum ...	3 0	4 0
Arums, doz. ...	2 0	3 0	Maidenhair Fern, doz. bnchs. ...	0 0	8 0
Asparagus, Fern, bnch.	1 0	2 0	Marguerites, white, doz. bnchs. ...	2 0	4 0
Azalea mollis, per bun.	1 0	0 0	„ yellow, doz. bnchs.	2 0	0 0
Bouvardia, white, doz. bunches ...	0 0	8 0	Myrtle, English, per bun. ...	0 6	0 0
Bouvardia, coloured, doz. bunches ...	0 0	8 0	Narcissus, paper white, doz. bunches ...	0 0	2 6
Camellias, white ...	1 6	2 0	„ Soleil d'Or ...	0 0	1 6
Carnations, 12 blooms	1 3	1 9	„ double Roman ...	1 6	2 0
Cattleyas, doz. ...	0 0	12 0	Odontoglossums ...	4 0	0 0
Croton foliage, bun. ...	0 9	1 0	Orange blossom, bun.	2 0	3 0
Cycas leaves, each ...	0 9	1 6	Primula, double white, doz. bunches ...	6 0	8 0
Cypripediums, doz. ...	2 0	0 0	Roses, Niphetos, white, doz. ...	2 0	3 0
Daffodils, single, doz. ...	5 0	8 0	„ pink, doz. ...	4 0	6 0
„ double „ ...	4 0	6 0	„ yellow, doz. (Perles)	2 0	3 0
Eucharis, doz. ...	0 0	3 0	Smilax, bnch. ...	3 0	4 0
Freesias, doz. bunches	2 0	3 0	Tuberose, gross ...	0 0	9 0
Gardenias, doz. ...	6 0	0 0	Tulips, white, single, doz. bun. ...	9 0	12 0
Geranium, scarlet, doz. bnchs. ...	4 0	6 0	„ coloured, doz. bun. ...	9 0	12 0
Hyacinth, Roman, doz. bunches ...	7 0	8 0	„ scarlet, single, doz. bun. ...	4 0	5 0
Ivy leaves, doz. bun. ...	1 6	0 0	Violets, single, doz. ...	1 6	0 0
Lilac, French, white, per bun. ...	4 0	4 6	„ double, doz. ...	3 0	4 0
Lilium Harrisii ...	4 0	0 0			
„ lancifolium alb. ...	2 0	2 6			
Lily of the Valley, 12 bnchs. ...	6 0	12 0			

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, cooking, bush.	8 0	to 10 0	Grapes, Alicante, lb. ...	1 6	to 2 0
„ Newtowns, case ...	10 0	0 0	„ Colman ...	1 6	2 0
Bananas ...	8 0	12 0	„ Muscat ...	0 0	5 0
Cranberries, 30 to 36 qt. consignment ...	9 0	10 0	„ Almeria ...	0 6	0 8
Dates, red V., doz. bxs.	5 6	0 0	Oranges, per case ...	10 0	25 0
Lemons, Messina, case	12 0	16 0	Pears, French, crate ...	12 0	0 0
			Pines, St. Michael's, each ...	2 6	3 6

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	2 0	to 3 0	Mushrooms, forced, lb.	0 6	to 0 8
„ Jerusalem, sieve	1 6	0 0	Mustard & Cress, doz.	1 6	0 0
Batavia, doz. ...	2 0	0 0	Parsley, doz. bnchs. ...	2 0	3 0
Beans, French, per lb.	2 0	0 0	Potatoes, new French, per lb. ...	0 3½	0 4
Beet, red, doz. ...	0 6	0 0	Potatoes, English, cwt.	4 0	5 0
Brussels Sprouts, ½ sieve	2 0	3 0	Radishes, doz. ...	1 6	0 0
Cabbages, tally ...	1 6	3 0	„ long, doz. ...	0 9	0 10
Carrots, doz. bnch. ...	2 0	2 6	Seakale ...	0 9	1 0
Cauliflowers, doz. ...	2 0	3 0	Shallots, lb. ...	0 2	0 3
Corn Salad, strike ...	1 0	1 3	Spinach, bush. ...	2 0	3 0
Cucumbers doz. ...	10 0	15 0	Sprue, French, doz. bn.	8 0	9 0
Endive, doz. ...	1 0	1 3	Tomatoes, Teneriffe consignment ...	4 0	6 0
Herbs, bunch ...	0 2	0 0	Turnips, doz. bnch. ...	2 0	3 0
Horseradish, bunch ...	1 6	0 0	Watercress, doz. ...	0 6	0 0
Leeks, bunch ...	0 1½	2 0			
Lettuce, Cabbage, doz.	1 3	2 0			



Agricultural Organisation Society.

Combination of all connected with the land, be they owners, occupiers, or labourers. Combination for what? Their mutual benefit; for all three are but parts of what should be one great force or power. They cannot, and, therefore, must not, try to stand alone. The great mistake that has been made in the past by those who look for a livelihood out of the land arose from selfishness. This was partly the result of isolation and conservatism, and as long as times were good, although the narrow spirit was to be deplored, it did no very great harm. Now, when things are so different, united measures must be taken to stem the strong set of the current the wrong way. There was a question raised some time ago as to whether any union between the three parties was possible. It was looked upon as Utopian, but this has often been the case before, and possibly now the time may be ripe to try the experiment.

Agricultural Organisation Society. What does it really mean? Don't confound it, dear reader, with Charity Organisation, although that phrase has been running in our heads all day. We feel ourselves much behind the times when we admit we did not know of its existence till, through the courtesy of a friend, we saw some leaflets respecting it about a month ago. We see the president is R. A. Yerrburgh, M.P., the same gentleman who has Credit Banks so at heart, and the committee of management includes the names of several well-known friends of agriculture. We almost fancy (but we do not know for a fact) that the late Lord Winchelsea may have originated the idea that gave this association its birth. It is a thing he would have fully appreciated. This association exists to teach—and the precept it would enforce is really self-help—and the first step towards self-help is combination. We all know the old fable of the bundle of sticks unbreakable when tied together—easily snapped when apart. In other countries combination has been tried with success; and, indeed, here in all our most commercial enterprise there are amalgamations, farmers alone standing aloof.

Now, the first step is the education of the farmer; and this association undertakes to send to any specified district a lecturer to address meetings and to give advice as to the proper course to be pursued in the formation of local societies. It is not a trading society; but it aims to show farmers how best to trade together—that is, to combine against the outside public. There is a public that needs the farmer's wares; but this public must be taught fair trade. It cannot expect the produce of the farmer's skill at a price below what it has cost him in production, and it behoves the farmer to present those wares in the most attractive form, and in the best condition. The wares must be uniform. This especially applies to dairy produce. No two women make up butter exactly alike or of the same quality. Hence it stands to reason butter from a co-operative dairy,

butter which never varies a hairbreadth throughout the season, must stand the chance of a better market than the uncertain contents of the dozen or more butter baskets brought to town by the village carrier. This dairy co-operation seems the first step, and, we may add ourselves, that any knowledge as to how to start and to carry on such an enterprise would be most valuable, not only to us, but to many of our neighbours. We want to be more in touch with the consumer. We want to get rid of the middleman; and if we can be taught this by the people in Dacre Street we shall be thankful.

If we are to combine to sell our produce, and thus make the best of it, we also ought to combine to buy those goods that we need for the proper carrying on of our business. We need, oh! so many things, and we often get sadly robbed. For tillages, for seeds, for machinery, for pedigree stock our demand is incessant, and, surely, by combination we might contrive to get better terms and better articles. Now we know some readers will at once observe there are farmers' companies that were promoted on purpose to supply a good article at a fair price. Yes, we know all that, and we know something that the outsider perhaps does not know. These companies were founded by farmers, and they got their share of legitimate profit. But the money profit was not their first idea. Their idea was a pure article, and if there was a good dividend honestly made, all right; but of the shares—the original shares—how many in the course of, say, twenty years, remain in the hands of the farmer proper? Just attend, as we have done, the public sale of some of these shares. Who are the buyers? A very small percentage of farmers; but numerous outside men, who care absolutely nothing as to how the dividend is earned as long as they get it. This is not an isolated case, and when outsiders (i.e., other than farmers) get the preponderance, look out for squalls. Co-operation does away with this. Dividend is not the thing striven for. Pristine purity is!

We have made a step in the direction of the improvement of stock. Throughout the country are associations for the purchase of stud animals; but there is still room for more. We want some associations for quite the small man—the man who is not interested in the Shire or Hackney, but whose sole hope is his cow. There used to be parish bulls and parish boars; why not again? Then machinery, that, too, is a wide field. Why should this trade be in some neighbourhoods concentrated in one man, who is really the master of the situation? Why not combine for the use of reapers (hay and corn), Potato diggers, riddles, and, above all, threshing machines.

Then we come to the old perennial poultry question. Why, instead of each person setting their own hens, should not all the chickens be hatched out of incubators, and then distributed to be reared on the several homesteads, collected again at a central dépôt for the final cramming process, and be dressed and sent by the crate to the large centres of population? The same with eggs. Let them be collected fresh, graded, and sent off in bulk. We ourselves found out we could do better with our eggs by sending in quantity to the large towns. We got a neighbour or two to join us at first, but it was too much trouble to pack carefully and invoice to a station. They only did it for a few weeks, but still loudly lamented the poor price obtained in the local market.

Then in those districts where fruit is abundant there is an immense field for co-operation. The cost of sending off by rail a few stones makes one fight shy of the job; but if a truck-load could be guaranteed, special rates would be made by the railway company. We see from the papers before us that in Worcestershire a society has been started for the purpose of bringing into immediate contact the fruit growers and fruit consumers, and in this case we have, on the best authority, the information that in the district referred to, i.e., Far Forest, the members of the Supply Association are almost entirely small holders. They are not only supplying fruit, but other pleasant country things—poultry, butter, eggs, &c.

If we might venture an opinion, we would say that a notable field for enterprise lies before the A.O.S. in those districts where the land is cut up into small holdings. It is the weak who want the most help. The man who farms from 200 to 1,000 acres is generally strong enough to protect himself. He is rather in the case of those big shipping firms who do their own insurance. Of course, it would be better

if the strong brother would join force with the weak one; but it is really the weak one who would get the greatest ultimate benefit. The A.O.S. comes before the public with a well thought out plan of action, and we only wish its aims and objects were better known. We would ourselves gladly go miles to hear an organising secretary tell us how to make a start on better lines, and we have no doubt what he left unexplained would be soon elicited by practical questions, from his hearers. There is nothing like the living voice. Subjoined is a list of its aims:—

I. It sends down organisers to address meetings and to give advice as to the proper course to be pursued in the formation of local societies.

II. It provides model rules, which have been found by experience to be the best working rules for similar societies.

III. It sends lecturers, when desired, to affiliated societies.

IV. It acts as an information bureau to affiliated societies—

(a) For trading matters.

(b) In legal matters (especially as regards Industrial and Provident Societies).

(c) In expert advice.

(d) In obtaining paid managers, dairymen, and similar officials.

(e) In co-operative account keeping.

V. It arbitrates in disputes arising from the rules of administration of affiliated societies.

VI. It assists in all ways possible the furtherance of combined action between the various affiliated societies in trading matters.

VII. It publishes leaflets and circulars from time to time dealing with the various forms of agricultural co-operation, and furnishing trade information.

For terms of membership, and more useful information than we can compress into our limited space, apply to the Secretary, Dacre House, Dacre Street, Victoria Street, London, S.W.

Work on the Home Farm.

Last week we had three or four fine mild days, with the thermometer at 50deg in the shade, and we could almost see a change in the herbage of the pastures. Now we have a covering of snow, with a frosty wind from the west, while the newspaper prophesies rain. It is not easy for the farmer to plan his work from day to day, even at this time of year. To-day one farmer is sorting Potatoes with a riddle worked by his own regular farm men, six in number. It was snowing up to 9 a.m., but the men, who were meanwhile employed about the premises, were ready to start work as soon as the downfall ceased. The tenant of the next farm intended also to sort Potatoes, but, having no riddle, is dependent on women sorters. These ladies will not come for half a day, and, in fact, resent being sent for after the usual time. There was no sorting on this land, and the greater part of a fine day was lost. Is it surprising that machine riddles are becoming so common? On one farm the hands are usefully employed on urgently necessary work; on the other they have to be put to odd filling up jobs. Before this snow came the land was drying nicely, and if it melts away without much rain to follow, we shall be able to cross fallows very soon. That is the first ploughing work which lies before us, the Turnip folds having been ploughed close up last week.

There are complaints of the not over well planted young Clovers dwindling away still further. This may be caused by the sharp frosts we have had when the ground was in a very wet condition; nothing is so fatal to young Clover as a combination of frost and flood. The young roots are lifted and broken, and the plant is so loosened that it dies. As soon as the surface is dry enough, a heavy flat roll should be run over the young seeds, but it must not be done in frosty weather. Seeds may be rolled however, when the land would be too wet for rolling Wheat. The latter, as well as the harrowing of it, must wait for the present. How much more satisfactory is the appearance of a field of Wheat which has been well drilled, than one which has been sown broadcast on the ploughing. We saw one of the latter the other day. In some places it was much too thick, and in others there was very little. There were indications that the ploughing had been anything but straight, whilst the less said about the sower's ability the better. Sowing is becoming such a lost art that it appears that without a drill the work cannot be done. What a good thing it would be for a landowner or a combination of his tenants to offer a good annual prize to the best all round labourer in the parish under a certain age. There would be then some inducement for young labourers to become more efficient.

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OF FINEST SELECTED STRAINS AND TESTED GROWTH

BARR'S NEW DWARF EARLY MARROWFAT PEA, "THE HERALD."—A very valuable addition to our early peas, coming in with *William the First* and other earliest round peas, and bearing a profusion of large well-filled pods, containing 8 to 10 peas of fine rich flavour; sturdy branching habit, height 10in. to 12in. Per pint, 3/6.

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Considering that fewer Novelties have been distributed from Earlswood than any other firms, with a like comparison, this Audit more than justifies the comparisons made in our Special List (see page 15). It is not the F.C.C.'s of the N.C.S. which has brought them to the front (for simple reasons), but there they are, from a genuine vote. And at least Six of our Novelties of this season will compare with any other six (bar none) next Autumn. They have been awarded Gold, Silver, and Bronze Medals at Melbourne and Edinburgh; also A.M. at the R.H.S. F.C.C.'s at Edinburgh, Brighton, Belfast, Bristol, Battersea, Liverpool, Leamington, Manchester, Norwich, Aberdeen, Hull, Bradford, &c., &c., by the very best Chrysanthemum Judges. And I shall not be surprised to see Mrs. T. W. Pockett running well for first place in Novelties. Those who are looking for best "Muons" should send at once for our SHEET OF NOVELTIES (and SPECIAL LIST) and see their Photographs, for no time should be lost in ordering Novelties.

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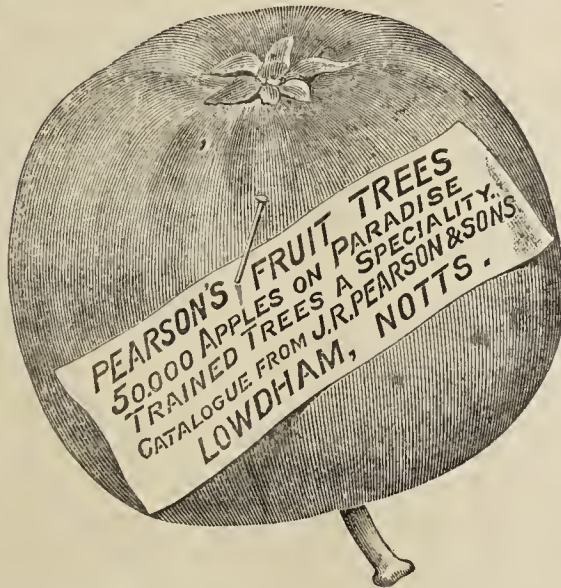
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JOHN FORBES, Nurseryman, HAWICK, SCOTLAND



Journal of Horticulture.

THURSDAY, FEBRUARY 13, 1902.

Worries.

THE worries of life, a gardener's life, embrace many species and varieties; but the worst worry of all is the silent kind, which, like an eelworm, gnaws inwards, sapping the energy of its host, and which often, too, necessitates a change of soil to fresh fields and pastures new. The thousand and one common or garden worries attacking from without are well known and too much talked about to detain us, for here "Our Journal" steps in and fights valiantly for the oppressed. "A friend in need is a friend indeed," and such it is. Many victories are proclaimed in its pages; a hundred defeats pass not unrecorded, for every failure is a step to success. Do not, Mr. Editor, cast a roving eye over the W.P.B., that grave of many an ill-delivered good conception. Our theme is pregnant with truth begotten of personal intimacy, and if it can be diplomatically delivered no harm can be done, and some good may result. The wheels of life never ran so fast, and never more did they need the lubrication of a good understanding.

"What are you driving at?" says one Driving at a thorny fence, friend, which too long has divided many a master and man, and if only an opening is made a better light, at least, may be thrown on a shady subject. Master and man? Oh! the mistress is master here, many can say and many have said. Exactly so; and a very good master many a mistress makes when keenly interested in her garden. One lady not only so well exemplifies this in her knowledge of plants and right and wrong methods of cultivation, but by her sympathetic recognition of the outward and visible worries of her gardener, leaves no room for that inward and spiritual burden as a chronic canker of life. It is very

READERS are requested to send notices of Gardening Appointments or Notes of Horticultural Interest, intimations of Meetings, Queries, and all Articles for Publication, officially to "THE EDITOR" at 12, Mitre Court Chambers, Fleet Street, London, E.C., and to no other person and to no other address.

well known that the germ of many men's troubles lies in the abundant counsel and diversity of opinion gratuitously bestowed upon employers by their friends; but it is seldom discussed save with bated breath amongst the craft, hence, in a measure, the diffidence of broaching the matter now. Would that all "masters" were like the lady in question, who delicately, but decisively, nips all budding arguments and suggestions with the excursive remark, "Oh, I leave all that to my gardener;" and it is her invariable custom to give him timely notice (not "a month's notice") when particular visitors are expected, that he may take his proper position by standing on his own ground to receive them.

Unfortunately this lady is an exception. So many are sufficiently interested to take advice from numerous friends always ready with "something to hint, determine, or propose," and a perennial misunderstanding arises from this mongrel mixture of advice. The gardener, in some cases, is not only "worritted to death," but browbeaten by a confusion of doctrines such as tormented poor Jo in "Tom-all-alones," where every fresh preacher prayed different, and said, "t'others were all wrong." Save us from our friends—our employer's friends—and spare us from the fecundity of their counsel, is surely an unwritten petition of the gardener's litany. How is it that the gardener of all men is a target for darts discharged by visitors to wound his *amour propre*, when they would think it very "bad form" to openly criticise the cuisine or the service, the organisation of the domestic staff or its management, of which they are probably much better judges than they prove to be of horticulture?

High grade gardens there are, of course, where all goes on not only decently and in order, but in a truly dignified manner. Alas! that the pressure of circumstances generally causes this high tone section to get smaller by degrees and beautifully less, whilst the "worritted" class increases by leaps and bounds. If it is admitted that this middle grade section comprises the bulk, as well as being the backbone of British gardening, its importance cannot be denied. The middle grade gardener may not be the most advanced in theory, but his practical ability is without question, his one weak point being, possibly, either diffidence or want of confidence in his logical powers to parry the darts of criticism. One of the best gardeners—and certainly one of the most tormented men—ended his tale of woe to a sympathising friend by saying, *à propos* of the great army of unsought counsellors, "I never bandy words with them; it's useless. Ten thousand and thousand are their tongues but all their joys are one—that is to worry me." He suffered in silence, as many do, from some vague, if mistaken, idea that it was better to bear the evils he had than fly to others he knew not of.

It should not, however, take much logical reasoning to convince the Court of Appeal that a man who has made gardening a life study, whose sound practice is based upon proved experience, knows more about it than the eminent banker, the distinguished physician, or the celebrated statesman whose energy and talents have been absorbed by works as divergent from it as the poles are wide asunder, yet whose eloquently polished shafts of rhetoric seem able to shatter any crudely expressed convictions advanced to meet them. Nor does it, in fact; and when the matter is judiciously placed before the powers that be, as it has been in some cases with the happiest results, then the wisdom of doing so is obvious. We gardeners cannot hold ourselves blameless in this matter, nor are we faultless in others, for some do, undoubtedly, push their own hobbies to the front and leave their employers' wishes to lag behind, forgetting that "those who pay the piper should call the tune," thus providing an opening for a chorus of counsel from outside which is neither grateful nor comforting.

How sad it is to see masters and men (good masters and good men) continually playing at cross-purposes when a better understanding would straighten the crooked way to their mutual advantage generally and the good of the garden in particular. That there are various sources of friction is but too apparent, and cases in which but little amelioration can scarcely be expected, so much so, sometimes, that the

gardener will, "like a wise dog, when he sees preparations made for throwing him out of the window, walk out by the door." From an old number of a society paper, the following extract, showing a society lady's methods, needs but little comment: "When the gardeners have set out the flowers she is so fond of she likes to take her garden implements and to work over the beds for hours, changing the flowers about to suit her fancy." That there are men—and good men too—able to survive under the neutralisation of their individual experience and opinion without being devitalised goes without saying; but they are perched high on a pinnacle of philosophy that but few gardeners dare hope to attain.

If there is anything more pitiful in a gardener's career than the constant worrying some men are subjected to it is their diffidence or inability to exterminate this beastie which preys "innards" by a prompt yet respectful, clear but courteous, explanation of their competence to carry out that which they engaged to do, and, in fact, without which understanding they would not have been appointed. Sooner or later it has to be done—the sooner the better—and the man who suspends it indefinitely by the peg of that old proverb "sufficient for the day . . ." only puts the future in pawn to supply the present. Undoubtedly some young "heads," with all the temerity of youth, "rush in . . ." to find themselves very quickly "out." They may find wisdom in the old distich:

If your life you'd keep from slips, five things observe with care—
Of whom you speak, to whom you speak, and how, and when, and where.

After all, those who love their garden are not so unapproachable as many sufferers surmise, and the misunderstanding which goes on, perhaps for years, is not only a gardener's misfortune, but often his fault.—A. N. OLDHEAD.

New Vine Borders.

The soil for these should now be prepared, and the best for the purpose is the top 2½ in or 3 in of a pasture, naturally rich, friable, and neither light nor heavy. As that is not always obtainable, light loam may have an addition of clay marl, dried and pounded, and heavy loam an addition of calcareous gravel, or old mortar rubbish, broken bricks, or burnt clay, from a fourth to a fifth or sixth in each case. To good friable loam add a tenth of wood ashes, one-fifth of old mortar rubbish, freed from laths and other pieces of wood, a twentieth of "nuts" charcoal, and a fortieth part each of crushed bones and calcined oyster shells. These proportions may be added to any soil after its texture has been made heavier or lighter, as before stated. If the soil be poor, a fifth of short, fresh, but sweetened, stable manure or horse droppings may be added, otherwise manure or vegetable refuse should not be used, manure in most cases being best applied as a mulch.

Their Preparation.

In preparing the border, which may be proceeded with as the weather permits, bear in mind that no fruit tree requires more copious supplies of water when in growth than the Vine, and at the same time is more impatient of stagnant water; hence drainage must first receive attention, and instead of excavating, concreting, or cementing, keep the border well elevated, as far as circumstances admit. Employ 3 in drains, with proper fall and outlet. Provide a foot of drainage, the roughest at the bottom, and the smallest at the top, which last, preferably, may be of old mortar rubbish. If the border is intended for early or late Vines, allow a rather sharp slope to the south, for the purpose of throwing off wet by lights or other means. Two feet depth of soil is ample, but it ought to be 2½ ft at first, to allow for settling, and the compost should be well compacted.

Planting Period.

The best time for planting Vines is from April to June inclusive, and those intended to be planted at that season should now be cut back to the length required, and the row placed in a cool Peach house or pit to start into growth naturally. When the shoots are a couple of inches long, shake the plants out, and plant them in the permanent borders, spreading the roots out carefully, and working the soil well amongst them. A 6 ft width of border will be sufficient in the first instance. When the roots are to have the run of both inside and outside borders, they should be confined inside, not making the outside border until the Vines are thoroughly established.—G. A.



Protecting Apricots from Frosts.

I have been very successful with Apricots on a south wall in my town garden, though doomed by many friends to failure before trial. The only protection I give them is, at this time of the year I put a board extending the breadth of the trees, and, say, 10in wide, against wall right over them. This wards off snow, cold rains, and partially frosts. They fruit every year. Early Rivers and Moor Park were recommended me by the late Mr. Rivers, and no one could desire better.—W. J. MURPHY, Clonmel.

National Chrysanthemum Society.

Referring to your report of the annual meeting of the above Society, I observe you say (and quite correctly), "There were some sharp words uttered at this juncture owing to the secretary having proposed the new auditor." The new auditor, Mr. G. J. Ingram, was proposed at the meeting of the committee on January 13, and it was unanimously agreed that he should be nominated by the committee at the annual general meeting. I proposed the name of Mr. G. J. Ingram on the 3rd inst. for the purpose of giving me an opportunity of informing the meeting who and what Mr. Ingram is. But there are a few of the members—a very few indeed—who appear to think that everything the secretary does must be wrong.—R. DEAN.

Helleborus niger.

It has been my good fortune to have seen what I may describe as a rare sight, viz., a large bed of pure white flowers flowering freely in the open ground in mid-January. In the grounds of a house at Ware, in Hertfordshire, there is an oval bed, 18ft long by 10ft wide, planted entirely with Christmas Roses (by no means an easy plant of cultivation), and there in great profusion are masses of this beautiful flower, exquisite in their almost perfect whiteness, which is well set off by the handsome dark green foliage, and forming in the darkest season of outdoor gardening a perfect gem of beauty unrivalled in floriculture. An Ivy wall, 20ft high (in itself somewhat unique) protects the plants in great measure from the hot south sun of summer, and the constant care of their owner sees that they are not disfigured by the baleful spot so often seen on the bloom, caused by the too affectionate slug. This bed of flowers is owned by a lady who, we think, may well feel a pride in them, for the happy possessor of such a rare and beautiful thing is much to be congratulated, and we suspect must be envied by every lover of flowers. I propose to give some further notes on these flowers and their culture later on.—J. B. R.

"Horticultural Directory": a Testimonial.

During December, in a review of a certain garden address book, you commented on the fact that you had had experience of the great difficulty there is in getting gardeners to send in alterations of address. I can understand that such a list of names is valuable to large firms of seedsmen, &c. As to nurserymen and others in the trade having their names in a horticultural directory, I have received within the last few months a very striking lesson on its value. We have been established in the Eastern counties as nurserymen, seedsmen, and florists for over fifty years, but our name had not appeared in your directory, although my grandfather's name used to be in "Glenny's Annual," which I believe has died out. (I should be glad to hear from anyone who has a copy of it in their possession.) During last autumn we received an order for a large quantity of fruit trees, and, not knowing where to get suitable ones, we wrote to a certain firm in Nottinghamshire, and a type-written reply was received from them saying that as our name was not in the horticultural directories they could not send their trade list without references as to our being genuine nurserymen. By the time this was done the supply of fruit trees for trade buyers was exhausted, and we therefore lost the order; the result was I immediately sent our name to be inserted in your "Horticultural Directory" for 1902. The action of the Notts firm is commendable, and ought to be imitated by all in the wholesale trade, and this would, I believe, do something towards checking every little grocer's shop from turning into retail seed shops, and would thus protect the genuine tradesman. Wishing your useful and up-to-date directory great success, I enclose my card, and beg to remain, yours truly,
—EASTERN COUNTIES.

The Rainfall of 1901 at Wick.

I herewith send you a note of the rainfall for 1901 in this far northern county of Caithness. Rainfall here is not so heavy as people farther south imagine it is, and is never of long duration, such as it is on the west coast of Scotland. At the very most I have not seen it last longer than one day here, while on the west coast of Scotland I have seen it often last for five or six days without ceasing; but, as in most other cases, Nature has made provision for that also, as the soil here is heavy and does not take in rain so readily as on the west coast, where the soil is light and more sandy. Perhaps this list may interest some of your readers:

RAINFALL.—January, 1.57in; February, 1.60in; March, 2.30in; April, 2.80in; May, 1.79in; June, 1.50in; July, 2.30in; August, 2.04in; September, 1.85in; October, 3.05in; November, 2.30in; December, 2.26in.—D. MACLEAN, Rosebank Gardens, Caithness.

More Late Chrysanthemums.

I enclose four blooms of Yellow Princess Victoria Chrysanthemum. They were originally cut with about 15in of stem, just a fortnight ago to-day, January 20. The blooms were arranged in a vase, the water of which was changed every alternate day, and they are as fresh now as they were when first cut. The colour is much more vivid than that old favourite W. H. Lincoln, and is much superior as a cut-flower variety on account of its having a good length of stem; it is also ten days later. It should be disbudded to have perfectly double blooms like those I send for your inspection. Princess Victoria, from which Yellow Princess sported, is too well known as a late flowering white to need any praise from me. Messrs. W. Wells and Co., Ltd., and Messrs. H. Cannell, I notice, catalogue a pink sport from Princess Victoria, and both seem to be distinct in colour by the description given of each; they are differently named, also. The three—White, Yellow, and Pink—will form a trio very hard to beat, and I strongly recommend all market growers and gardeners to add these as soon as possible to their collection.—A. JEFFERIES, gardener, Moor Hall, Harlow, Essex. [Nothing could be more to our satisfaction than that the late growing varieties should be prominently brought to the notice of growers. Those named by Mr. Jefferies are eminently fitted to be chosen, and, though space does not allow us now, we will yet name others that should be given a trial. Attention in the meantime may be directed to Godfrey's Winter Queen, which as shown on the 14th inst. in the Drill Hall, well deserves its name. Mr. Jefferies' flowers had strong and healthy foliage, and could not fail to last fresh for a long while.—Ed.]

The Market Gardeners' Act and Gardens.

At the Preston County Court recently, observes the "North British Agriculturist," Judge Coventry had rather a curious case before him, in which the Market Gardeners' Act was introduced. The plaintiff or pursuer was Robert Jones, a property owner, living at Ashton-on-Ribble, and the defendant John Taylor, who has been one of his tenants. From the evidence it appeared that for a score of years defendant was a tenant of the plaintiff, but received notice to quit, which notice expired on November 30 last. In front of the house was a small garden, planted by defendant, as was admitted, with Laburnum trees, Auriculas, Pyrethrums, Roses, Raspberry canes, Lilies, Sage plants, Phloxes, Violas, Campanulas, Crocuses, and plants of various descriptions. On November 29 Mr. Jones saw Mr. Taylor digging up the Laburnum trees and removing the flowers. He remonstrated with him, but without effect, defendant contending that as a market gardener he had a perfect right to take the plants away. Plaintiff, however, instituted an action for the value of the plants, and now claimed £1 5s. 6d. Mr. Smith, on behalf of the plaintiff, cited the Market Gardeners' Compensation Act, 1895, which defines a market garden as "a holding or that part of a holding which is cultivated wholly or mainly for the purposes of trade or business of a market gardener," urging that the small plot of land in question was simply used for ornamentation purposes, and could not be regarded in the light of a market garden.

His Honour: It does not matter how small the plot of land is, but rather how the occupier uses it.

Mr. Smith: A nurseryman at the end of his term of tenancy may remove trees planted for the purpose of his trade, but a private person may not even remove a flower.

In giving his decision the learned Judge said the whole question was whether the plants and flowers enumerated would apply wholly or only in part to a man carrying on the business of a nursery gardener. He should quite think defendant, as he had said, did plant these things, and occasionally sold some, but at the same time others would not possibly come within the scope in question, and there would be a verdict for plaintiff for 10s.

Seed Sowing: The Garden and Greenhouse.

When February comes in, the time of seed sowing commences in earnest, for although the soil in the open air may be wet and cold, or held in the "iron grip" of frost, vegetation under glass is each day responding more quickly to the influence of stronger light and increasing warmth. In all gardens, whether large or small, it is necessary to raise hosts of plants for seed each year, because by so doing the most can be made of glass structures, and without this annual sowing it would be quite impossible to create so many fine features in flower beds and borders, without a greatly increased expenditure. I do not intend to enter into a detailed statement as to the precise conditions under which each type of seed should be sown, because I think I can advance in a few words ideas in regard to sowing which, if followed, will prevent anyone from going very far wrong. In all cases see that the pots, boxes, or pans in which seeds are sown are well drained. A compost formed of equal parts loam and leaf soil, or peat (half a part sand), with a little powdered charcoal added, will prove satisfactory for the majority of very small seeds. In cases of larger ones, a little more loam may with advantage be added. For fine dust-like seeds, such as the Begonia, I like to burn the soil to make it quite free of insect life.

After being pressed firmly into the receptacle used, this is thoroughly moistened from beneath by partially immersing it in water till the water rises to the surface of the soil. When the moisture has drained away sow the seed thinly on the surface, do not cover with soil, but cover the pan with a square of glass, to be kept dark by paper or mats until germination takes place, light being then gradually admitted. Larger seeds should be covered with a layer of soil in proportion to their size. In all cases prick out the young plants before they become drawn and weak. Among

ASTERS

I am particularly fond of the dwarf bedding kinds, as they can be obtained in distinct colours, and come in well for edging large beds or for filling up small ones, after spring bedding has been removed. The white and pink gant varieties of Comet no one seems to be able to get too many of, as they are grand indeed for cutting during August and September. Asters of the Victoria type are also good for cutting, as well as for lifting to form pot plants, and the graceful Ostrich Plume should find a place in all mixed borders. The beginning of March and a month later are suitable times to sow to obtain a succession of Asters of all kinds.

ALONSOAS AND ASPARAGUS.

Alonsoa gracilis and *A. Mutisi* are charming half-hardy annuals to sow in March, as they are uncommon, and showy in the mixed border, and are not to be despised as greenhouse plants. The foliage of *Asparagus plumosa* and *A. Sprengeri* is always in demand. Old plants often get stunted, keep up the stock therefore by sowing a few seeds in March or April in a warm house, where, if possible, a little bottom heat may be given. Both single and double tuberous Begonias, if sown at once in a house where a temperature of 60deg is maintained, will produce good flowering plants during the summer. Seeds of the miniature fibrous rooted kinds, if sown now, will make good plants by bedding out time, and they give much less trouble when raised from seed than do the tuberous rooted kinds.

THE MARGUERITE CARNATIONS

do not seem to lose one jot of their popularity. How could they when they supply such a profusion of scented flowers suitable for cutting? We do not want them to come into competition with the named border varieties, and February is, therefore, early enough to sow. Sutton's Vanguard is a new type, which everybody should try. If sown now and grown in pots, fine plants may be raised for autumn and winter flowering. The dwarf branching types of *Celosia plumosa* make a fine display in the greenhouse during August, and are well adapted for decorative purposes. February and March are suitable times at which to sow.

CINERARIAS AND COLEUS.

If large plants of Cinerarias are wanted, sow in February; if sturdy ones, in 6in pots for decorative purposes, defer sowing till the beginning of May. Each year I sow a packet of Coleus seed in March, as I find the quaint and novel markings of some

varieties raised more than counterbalance the loss of a few which have to be discarded for their want of colour. Those who want a showy climber for the greenhouse, having orange scarlet flowers, should at once sow a few seeds of *Eccremocarpus scaber*.

"SUB-TROPICAL" PLANTS AND LOBELIAS.

To obtain bold plants for the sub-tropical garden, or for large beds, sow at once seeds of the following:—Giant Hemp, *Ricinus* Bronze King, *R. Gibsoni*, and *R. communis major*. I wonder why that grand perennial *Lobelia Queen Victoria*, with its brilliant scarlet flowers, is not more often grown. Seeds sown now will produce good plants by bedding out time. Sutton's hybrids also deserve special attention, as their habit of growth is similar to that of the Queen, and flowers of many shades of colour are produced.



Halesia tetraptera.

PETUNIAS, SALPIGLOSSIS, STOCKS, &C.

I am afraid I already trespassed beyond my allotted space, so I will only add, do not forget the following:—Giant Mimulus, *Nemesia strumosa*, the bedding Petunias, *Phacelia campanularia*, the quaint and delightful *Salpiglossis*, the Stocks, Sunflowers, Sweet Sultans, Verbenas, and, above all, the Sweet Peas, for each, if well tended, will help to make the garden brilliant indeed.—H. D.

Ripe Grapes.

Avoid fire heat as much as possible in the Grape room, admitting air to prevent an accumulation of moisture, replenishing the bottles with clear rain water as required. An equable temperature of 45deg. is most suitable.—G.



Apple, Stirling Castle.

On page 147 we illustrate a prolific bush Apple tree, of the variety Stirling Castle. This is another of the well-grown fruit trees as represented in the gardens at Uffculme, the residence of Mrs. Richard Cadbury, at King's Heath, near Birmingham, where Mr. G. Menzies is head gardener. Stirling Castle Apple is a favourite in gardens far and wide, and Mr. Menzies finds it one of his most productive trees.

Rhododendron, Christmas Cheer.

This is a new, early flowering variety, which is much recommended for early forcing for Christmas and New Year. It forces very easily, flowers freely, and is considered by many to be superior to the old well-known type *Nobleanum*. The colour of the flower is white, with a slight tinge of rose, which gives it a delicate appearance. Specimen flowers of the above were exhibited by Mr. John Downie, Beechhill, Murrayfield, at a recent meeting of the Scottish Horticultural Association.

Grammatophyllum speciosum.

Apropos of our remarks regarding the specimen of this Giant Orchid now flowering at Kew, a French journal, "*Le Moniteur d'Horticulteur*," in a recent issue, cites our paragraph, and also announces that a Singapore journal contains a notice of the flowering of this remarkable species in the Botanic Garden there. We learn that the Singapore specimen carries fifty-five inflorescences, supporting a total of three thousand enormous flowers, in colour apricot yellow, maculated with greenish brown!

Melon Plants in Pits and Frames.

In these the plants have the shoots trained over the surface of the soil, and require somewhat different treatment from plants trained on trellises in houses. The plants being pinched at the second leaf, will produce two or more shoots, and these being stopped in turn, will result in four; if more, reduce to that number, and train two to the front and two to the back of the frame or pit. Shoots springing from the collar should be rubbed off whilst quite young, and do not encourage any laterals nearer the stem than 6in. This will keep the collar clear. Stop the principal shoots when within a foot of the sides of the frame or pit, and thus throw the vigour into the laterals, which will show fruit at the second or third joint, stopping them when one joint beyond the fruit. Cover the lights with double mats at night, and see that the linings are properly attended to, renewing the old linings as required. The bottom heat of fermenting beds should be 85deg to 90deg. Shift later some plants into larger pots, or add soil as the plants advance, stopping those for frames and pits at the second leaf, not stopping those for trellises, but placing a small stick to each for support, and rubbing off laterals as they appear.—G. A.

Melons in Houses.

In a Melon house a ridge the whole length of the bed—about 2ft wide at the base, with the top flattened so as to give a depth of 10in to 12in—is preferable to hillocks, the soil being made firm. The plants can be placed 2½ft asunder, the leading, or primary, shoots being taken up without stopping until fully two-thirds the distance they are intended to travel is reached; then pinch out the point of each. Some varieties will show fruit on the first laterals, and as early Melons are a consideration, let them remain, taking out the point of the shoot at a joint above them. To allow all the laterals to remain would very much overcrowd the foliage; therefore rub off the alternate laterals whilst they are quite young. After stopping the first laterals the succeeding laterals will show fruit at the second or third joint. The plants will require but little water as yet; nevertheless, maintain the soil in a moist condition. Sprinkle the paths and walks in the morning of bright days, and again at closing time or early in the afternoon, and ventilate carefully. Keep the night temperature at 65deg to 70deg, falling to 60deg in the morning; 75deg by day, rising to 80deg or 85deg from sun heat and 90deg to 95deg after closing; bottom heat to be kept steady at 80deg.—A.

Onions.

The ground intended for the Onion crop being dry on the surface, the lumps may be thoroughly broken down, and the surface made firm by treading or passing a roller over. It is essential to make the surface fine, as the drills must be shallow, and the seed evenly distributed. One of the best methods of forming the drills is to stretch the line across the space, and press the back of an iron rake alongside it to the depth of a quarter inch. The drills should be a foot apart, and the seed scattered evenly, but not thickly; afterwards covering carefully and making the surface firm. Varieties of merit are Ailsa Craig, Reading, Bedfordshire Champion, Rousham Park Hero, James' Keeping, and Cranston's Excelsoir.—S.

Halesia tetraptera.

This beautiful flowering tree proves quite hardy in the southern districts of England, and will succeed, when properly sheltered, in northern parts. It grows into a roundish-headed tree, 20ft high, and all who have had the privilege to see a healthy young tree bedecked with its white Snowdrop-like flowers, will corroborate the statement that this is one of the best of May-flowering shrubs. We have found it doing well on sandy loams in a free and airy position of the ornamental grounds; but one authority states that "it is happiest by a running stream, or where it can be sheltered in a soil that is deep, moist, and sandy. It will grow anywhere provided it is not too dry, and can be raised either in spring or autumn from root cuttings or layers." We show a small piece of a flowering branch on page 140.

Peas.

So soon, now, as the ground is in a sufficiently workable condition, and does not become a pasty mass when trod upon, several rows of early Peas may be sown. An open position should be chosen, yet if the ground is moderately sheltered it is all the better, and the soil ought to be of a light, rich character, having been well trenched or dug, and a liberal dressing of manure incorporated. Break down the soil if lumpy, and make the surface even and fine. The drills, which should be about 3in deep and 6in wide, may be drawn at various distances apart according to the height of the Peas sown. The width between the rows ought not to be less than the height the stems grow, and more space between may be given if convenient. Scatter the seeds evenly, and about half an inch apart, all over the base of drill. Cover carefully with fine soil. Under ordinary circumstances the seed is safe until germination ensues, when protection must be given at once. Should mice be liable to find the seed before growth begins, traps should be set. As protectors, use wire Pea-guards, but strands of black cotton over the rows are very effectual. Good varieties to sow now are Chelsea Gem, American Wonder, Bountiful, William the First, English Wonder, and Gradus.—E.

Ranunculus.

The season has now arrived for planting these very beautiful and elegant flowers. The soil of the bed ought to be in fine condition, neither wet nor dry. To prove its state, take up a handful, gently squeeze it, and let it fall about half a yard; if it is in right condition it will fall in pieces. Proceed then with the rake to level the soil; and, having finished that operation, then, with a triangular-shaped and rather small hoe, or with the corner of a common hand hoe, draw a drill across the bed, 2in deep; draw the next 5in distant from the first, and so on till the whole bed is finished. Commence this some fine morning, when there is a prospect of the day continuing fine. When the drills are all finished, sprinkle at the bottom of each drill, some fine sand; then bring out your *Ranunculus* roots, with a numbered label, made either of lead, with the number stamped upon it, or of wood, with each number written upon it with a blacklead pencil, upon a coating of white lead. Begin then to plant the variety written in your book opposite No. 1. Take each root and place it at the bottom of the drill, very gently pressing it down in the sand to about half the length of the claws of each root. Place the next at 4in distance from it, and so proceed till you have planted all the first kind. Follow on in this manner till the bed is filled. As soon as that is completed, cover the roots just over the crowns with some more of the fine sand; this sand prevents the roots from getting too wet or moulding. Having proceeded thus far successfully, take the rake again and carefully level down the soil into the drills.



Chrysanthemum, Nellie Pockett.

The splendid specimen plant of this variety, and illustrated on page 143, was grown by Mr. Robert Masson, gardener to W. Bisset, Esq., 38, Alby Place, Aberdeen. Mr. Wells, of Earlswood, who sent us the photograph, remarks that the plant was the best ever he saw, taking quality, size of blooms, strength, and quantity of healthy foliage into consideration. Regarding his treatment of bush Chrysanthemums, Mr. Masson has been kind enough to furnish the following particulars:—"The cuttings were inserted in December, and shifted on early in February into 3in pots. After the plants were established they were placed in a cool house without any fire heat. Towards the end of March they were moved into cold frames and placed as near the glass as possible. Early in May they received the next shift into 5½in pots, while towards the middle of June they received the final potting; Thomson's Vine and plant manure, and bonemeal were used liberally for all the pottings. The plants were fed with soot water and Thomson's manure alternately, after the pots were filled with roots, and until the blooms were half developed. The variety Nellie Pockett was pinched about the end of March, then allowed to make a natural break, and second crown buds secured. To become successful in growing specimen plants I consider the following points important:—(1), Young plants give healthier wood and larger blooms than old plants. (2), The final potting must not be too hard or else the growth is not so free. (3), Careful staking is needful, and it is better to insert a few at the final potting, the remainder during the season as required. By doing this there is not the same check to the roots. (4), In order to keep the foliage in good condition the plants must never be allowed to flag at any time.—ROBERT MASSON."

Seasonable Notes.

Very good plants for general purposes may be grown from cuttings inserted now, and even during the next two months; but, of course, the early raised plants are the most readily grown into large specimens. The early Japanese varieties, all the incurved, reflexed, single, and October flowering varieties of any section make excellent plants from good cuttings obtained and inserted now. The tardiness with which some varieties produce cuttings often makes it imperative that late propagation should be adopted. If cuttings are obtainable earlier, it seems reasonable to assume that if they are of a small, weak character, rather than remove and insert them at once, it is better to allow them to extend and strengthen while yet attached to the parent stools, affording the latter a favourable position near the glass. The stools are best under cover in a more or less cool position, according to what is best to bring forward the cuttings sturdily. A little steady growth maintains the sap in motion, and the cuttings when inserted strike more easily. Unless the cuttings are specially strong, it is not necessary to place singly in small pots, as they root more readily round the sides of 3in pots or larger. Use a compost of two parts loam to one of leaf soil and sand, and surface with sand. Use sucker growths if possible, about 3in or 4in long, and shortened to a joint. Water after insertion, and try to keep the cuttings fresh afterwards. Serious flagging prevents rooting. The best position for the cuttings is in a small heated frame, or a box in a vinery, in which panes of glass may be laid to exclude air. Wipe off the condensed moisture every morning from the glass. As the cuttings commence rooting, afford air in increasing quantity, until the glass covering can be entirely dispensed with.

Immediately roots become plentiful, the first potting of the plants must be made. Cuttings inserted some time ago will now be ready for potting singly. Pots 2½in in size are the most suitable for the first potting, though some of the strong rooting varieties can be placed at once in larger pots. Employ clean, dry pots, draining them with one crock at the bottom of each, covering with a layer of moss or rough parts of compost. The latter may consist of loam two parts, leaf soil one part, with a moderate amount of sand, and a sprinkling of wood ashes. "Veltha," an antidote against rust and other fungoid diseases, may be added to the soil with advantage, for it is better to commence early with such preventives as these. The plants may be thoroughly clean and free from the disease, but the spores of the rust may be resting in the soil. To be doubly safe, also dip the plants in "Veltha Emulsion," and no harm will be done if cuttings are treated the same.

Pot the plants fairly firm. For a few days after no water

should be needed, but water with a rosed can when the soil dries. The best place for the plants is a frame on a bed of ashes, but they would do for a time on a shelf near the glass in a cool house, especially should the severity of the weather preclude frame treatment. Air is important when rooting commences, but at first keep rather close, as this induces a start. They are much longer in starting growth under cold frame treatment entirely, hence where a slightly heated frame is not available, it is better to establish them first on a greenhouse or vinery shelf, and transfer to a cold frame later. Protection must be afforded from frosts, as any check to active growth is not beneficial, but may bring on mildew. When air is afforded during cold east winds, great care must be taken that direct draughts do not do harm. It will be better to apply air the opposite side to that the wind blows.—E. D. S.

Notes on New Japanese Varieties.

MRS. THIRKELL.

The narrow florets are fringed at the tips. The colour is a distinct and pleasing orange-yellow.

MRS. C. J. SALTER

is best described as a glorified Cullingfordi, which was known for years as the finest of bright coloured varieties for decoration.

MATCHLESS

is perhaps too small for exhibition, according to the present day standard. The florets are narrow, drooping gracefully, very dark in colour.

KITTY BAXTER

has broad, drooping florets which fold inward at the sides, reminding one of that once popular variety, Mons. Astorg, in its general formation, but is immensely superior. The colour is pure white, with a cream-coloured centre as the florets unfold.

MRS. E. BROWN

is a seedling from Mrs. H. Weeks, thus requiring similar treatment. This is a promising variety in every way. The florets curl and twist at the point, building up a full, solid bloom. The base florets are flushed, edged and lined with purple, the other portion pure white.

LORD SALISBURY,

although not quite new, is sufficiently so to be recommended amongst the novelties of the season. When well grown, blooms measure 8in in diameter; the petals are irregularly twisted, and the colour is conspicuous—old gold, splashed and edged with crimson.

SILVER QUEEN

has pointed florets which are rather loose. The colour, as its name implies, is silvery pink, flushed with rose on the surface.

J. MCKELLAR

somewhat resembles Mutual Friend in the formation of flower. The florets incurve at the tip and are rosy pink.

SENSATION

has florets ½in in width, which incurve slightly at the tip. The colour is pleasing—gold striped, and splashed with crimson. Edward VII., as a novelty, has medium-sized irregular florets of a dull crimson colour.

MRS. G. LAWRENCE

has narrow twirling florets of a rich yellow colour. Lady Esther belongs to the incurving Japanese section, and is a full-sized, creamy-white flower. May Perkins belongs to the same section, and is rich yellow in colour.

PRINCESS BASSARABA DE BRANCOVA

has florets after the Mdme. P. Rivoire type, pure white and very promising. Nelly Bean reminds one in its formation of Mrs. E. Mileham, although it is quite distinct from that variety. In colour it is especially pleasing, being a shade of lavender pink.

MRS. FRANK GREY SMITH

is a deep orange yellow, flushed with bronze, deeper on the surface when unfolding. Evelyn Beauty reminds one of Progne in colour—purple amaranth.

MARJORIE

has creamy-white florets, which have a warm lilac base. A full and promising variety. Duchess of Sutherland, orange yellow, long curly florets, making a bold full flower.

C. PENFORD

is named after Mr. C. Penford, Leigh Park Gardens, near Havant, a well-known exhibitor, and the raiser of that estimable variety General Buller. The newcomer is a reddish crimson with a buff reverse. The florets being long and drooping, produce an exceptionally deep bloom.

MRS. E. HEMMEL

is a great acquisition. The florets are extra long. The colour is somewhat peculiar to description. The lower florets are flushed amaranth, the upper portion a pinky white shaded yellow.

In the next issue of the Journal I hope to describe the new varieties of incurved which have lately been added to this increasingly popular section; with the numerous additions that have during the last two or three seasons been made it is quite safe to say this section has increased in popularity.—E. MOLYNEUX.

(To be continued.)

Iris tectorum.

In the issues of the *Journal of Horticulture* for October 17, 1901, page 362, and again on page 18 of issue for January 2, 1902, notes appear in reference to this beautiful Japanese Iris. The leaves are strong and vigorous, much resembling those of *I. lævigata*, yet it is quite distinct. The flowers do not extend much beyond the leaves, but their size and brightness cause them to be very attractive. Our figure on page 146 shows the natural size and form very well. The colour is violet, prettily



Chrysanthemum Miss Nellie Pockett.

marbled with purple, and with a very prominent white, purple mottled fringed beard in the centre. Mr. Arnott, in his note (see last reference) says that "he finds it requires a warm and dry position, either on the top of a sheltered rockery, wall, or roof; on the latter, however, it will not flower if in an exposed position. Two or three inches of soil are quite enough for it when it is on a wall or a slated roof. Like most other Irises of its character, it can stand a great deal of drought without injury." It flowers during May and June; but very few gardens possess this fine species.

A Birthday Episode.

"As I sat a-thinking," I remembered a custom I have followed out (I am chary now of saying how long), by sending you a birthday remembrancer. It was a doleful epistle last year, and with a very good reason. But what of the present? What shall I treat of in a lighter vein? Potatoes? How can we extract a smile from Potatoes? Well, one of my new hybrid crosses from a northern latitude of the U.S.A. has gone into commerce, or at least will do so when a sufficient stock of it is grown, so I initiate you thus far to show that I have flown off at another tangent, in another pioneering direction pro bono publico. I have others, too, to follow on, and I shall hope to furnish you by-and-by with more sedate articles concerning them, and also to furnish food for the next generation to come!

I will firstly greet you, publisher, writers, and readers of our *Journal*, by wishing you a happy new year, and "many on 'em," as they say, or as they used to say, in my native county of Suffolk. Materialism and beauty. How will a theme like that suit you, Mr. Editor? A comical criticism in a paragraph which appeared on page 559 of the *Journal*, December 1901, occurs to me, re Bouquet à la Politicians. I will partly take it for my text, minus the politicians, and call my title Bouquet d'Amour.

I was a bachelor when the circumstance happened—unfortunately I am now a widower—but I remember I was contemplating a "little dinner" to invite a few friends to come and partake of on that eventful first day of February. I am not an irascible fellow, but occasionally a difference of opinion on domestic topics with those to whom is entrusted the discharge of those peculiar functions will ruffle the temper of the most angelic of the masculine gender, and make him as furious as that accomplished gentleman, "Bluebeard." There is, they say, but one step between the sublime and the ridiculous. No wonder my chef de cuisine thought so, for I was in a towering passion in the morning to find the mince pies spoilt again—not baked enough—and after such repeated tuition, striving to impress her with the fact and economy of the thing, viz., directly the bread was taken out of the oven the latter merely required a small quantum of wood to engender a renewed heat sufficient for the baking of mince, or any other fragile pies of that description whatsoever. Alas! for bachelor's orders (or, widower's for that matter), "What should they know about orders?" . . . However, the mince pies were not "half-baked," and the adversary possessed the man; and what I did I will state to my shame and satisfaction. I procured fresh wood; I caused the oven to become reheated, and I sternly stating that if my chef did not choose to make the pies according to specification, and bake them properly—a nice healthy brown, fit for Christians to partake of—so soon as that particular quantity of wood had become exploded, I would come and make, and cause them to be baked myself! Wonderful! Now I seriously think of it, it certainly was wonderful!! The chef did make and bake some fresh pies beauti-

fully, and without retaliating a single word. No, she did not even shake her fist at me! I presented her with a glass of port wine in the evening. She deserved a bottle, but as I was going to observe, in the height of all the morning's hubbub I strode with "measured steps," though not "slow," into the garden, thoroughly disgusted, breathing anathemas, and, as far as my recollection serves me, consigning cooks and bachelor's establishments to the possession of all the caloric powers!

A change came o'er the spirit of this rage. In one instant the tide of my vituperation and anger was turned into shame and sorrow; and how? Why at a love-beaming sight of a pure

inoffensive flower, a Christmas Rose, peering at me from the friendly shelter of a hand-glass, which I had placed over it to protect it from that symbol of man's (and woman's) ingratitude, the wintry wind. How soon

The passions were at peace within,
And stilled each stormy thought of sin
In fellowship with a simple flower.

Often and often have I experienced the same fascination, became humanised with this sweet fellowship; and I have often thought if ever I should have the misfortune to lose my faculties that the sudden presentation of a beautiful flower would, in preference to anything, tend to the resumption of my reason. At any rate the fair Rose became endeared to me. It was culled and placed by my fireside, and remained there cherished and loved for the future of its existence. I loved the humble admonitor, and communed with it as I premised other people would do who ever culled a flower under a like feeling. I thought; I thought again. It was done. I gently insinuated some Russian Violets between each corolla of the Hellebore blossom, and secured by their stalks to the stem of the Christmas Rose tenderly with sewing cotton, introducing into the cup of the flower as many of the Violets as could be pleasantly passed without very much distorting the petals of the Rose. I carefully allowed the pistil and stamens to remain fully represented in the centre, and then procured the largest and most rounded green leaves from the plants of the Violets encircling them as a foundation, directly, though not quite obscuredly, beneath the white corollas of the flower, and it represented according to my idea the appearance of a beautiful Passion-flower—a bouquet; not for the hand, but being worthy to present to a lady to become secured on her bosom. My interpretation read thus:

BOUQUET D'AMOUR.

Evergreen as a foundation, enrayed with spotless white, centred with true blue, and the gentlest sparkle of yellow (jealousy, and where is true love ever found without it?) showing itself in just proportion by the peeping stamens and pistil of the Christmas Rose.—ROBT. FENN.

P.S.—The birthday passed off splendidly, and I only of them am left, with a loving heart, and my Saviour for my Friend.

The Cherry House.

In the case of trees started at the New Year, attention must be given to ventilating early, for no fruit tree dislikes a close and moist atmosphere more than the Cherry. Maintain a night temperature of 40deg to 45deg as the trees come into blossom, 45deg to 50deg by day in dull cold weather, 50deg in mild, increasing the ventilation from 50deg, allowing a rise of 10deg to 15deg from sun heat, with full ventilation, closing at 55deg. Syringe the trees and house in the morning and afternoon till the blossoms are somewhat advanced, but cease it before they expand. Damp the paths and borders occasionally to maintain a genial condition of the atmosphere, but allow a little ventilation constantly at the top of the house. Trees in pots must have the necessary care in watering.

Where it is intended to devote a house to the growth of Cherries, a lean-to, or preferably a three-quarter span-roof erected against a south wall, is suitable, and if provided with sufficient 4in hot water pipes to maintain a temperature of 50deg in the severest weather, it will answer for forcing them. The trees may be trained to a trellis about 1ft from the glass if planted out; they succeed admirably in pots, and in this case the house is set at liberty for other purposes about half the year.

Free ventilation should be provided at the top and bottom of the house, and in the case of planted out trees, the roof lights ought to be movable. The border should be inside, though the roots may have access to an outside one, thoroughly drained to carry off superfluous water. Good loam, rather strong, is most suitable, adding about a sixth of old mortar rubbish, and a similar proportion of road scrapings. Trees from the open wall between four and six years trained, if carefully removed to the house, come into bearing at once. Water well to settle the soil about the roots, and ventilate freely, syringing in the morning, and again in the afternoon, employing fire heat only to exclude frost. When the trees are fairly in growth, let the day temperature from fire heat be 50deg to 55deg, rising to 65deg from sun, increasing the ventilation from 55deg, and close at that temperature, leaving, however, a little ventilation on day and night; 40deg to 45deg at night will be sufficient. Belle d'Orleans, Early Rivers, Governor Wood, Elton, and Black Tartarian are suitable varieties for forcing.—A.

NOTES

NOTICES

Royal Gardeners' Orphan Fund.

The annual general meeting of the subscribers to this fund will be held at the Essex Hall, Essex Street, Strand, W.C., tomorrow, at three o'clock in the afternoon.

Appointment.

As instructor in the Practice of Horticulture at Swanley Horticultural College, Kent, Mr. Patterson, lately of the Royal Gardens, Kew, and of late assistant with Mr. W. P. Wright, Editor of Cassell's Dictionary of Gardening.

New Public Recreation Ground at Gillingham (Kent).

In a public competition for the best design for laying out the above, Messrs. William Barron and Son, landscape gardeners, of Elvaston Nurseries, Borrowash, were awarded the first prize.

Register of Nurseries, Seed Businesses, Gardens to Let.

Messrs. Protheroe and Morris's Register of nurseries, market gardens, farms, florists' seed businesses, and partnerships to be let or sold, for the month of February, has reached us. Application for the same should be made to the above firm at 67 and 68, Cheapside, London, E.C., or at 827, High Road, Leytonstone, N.E.

Weather in the North.

Frost ranging from 3deg to 12deg has prevailed throughout the past week, except on the evening of the 6th, when a partial thaw took place for a few hours, followed by 10deg frost during the night. Most of the days have been bright, with abundant sunshine, and Monday promised a continuance of the seasonable weather.—B. D., S. Perthshire.

"Life of Darwin."

Mr. Murray announces for publication this month, an edition of the "Life of Darwin." The full title is, "Charles Darwin: His Life Told in an Autobiographical Chapter and in a Selected Series of His Published Letters," edited by his son, Francis Darwin. The work will be uniform with the half-crown edition of the "Origin of Species," and Darwin's other works now in course of publication.

R. Dean Presentation Dinner.

Hereunder are the names of those who were present at the Richard Dean Testimonial Presentation dinner (February 4) per list sent by Mr. Jones:—Messrs. R. Dean, W. Sherwood, E. Sherwood, E. F. Hawes, James Anderson, F. Todman, G. Prickett, W. H. Groome, R. Ballantine, C. Jordan, G. Caselton, S. Mortimer, E. O. Greening, W. Mease, James Tyler, Robert Sydenham, H. J. Jones, A. Newell, Amos Perry, J. W. Wilkinson, W. Roberts, S. B. Dicks, G. Gordon, W. Sydenham, E. F. Such, W. Harrison, T. Bevan, J. Burn, George Cannon, W. Cuthbertson, C. Edwards, J. T. Stredwick, and Linford. The following papers were represented:—"Gardeners' Magazine," "Journal of Greengrocery," "Gardeners' Chronicle," "The Gardening World," "The Garden," *Journal of Horticulture*, "Middlesex Co. Times," and "Ealing Gazette."

Gardening Appointments.

Mr. James McVie, for seven years foreman at Lord Balfour's Gardens, Kennet, Alloa, and latterly head gardener at Knowe Park, Galashiels, to fill a similar appointment to Mrs. Buntin, Dunalisten, Perthshire, taking up his duties on March 1. * * Mr. James Wardhaugh, until lately head gardener at Gala House, Galashiels, to fill the same post to Sir George Douglas, Auchlochan, Lesmahagon. Both the above from Downie's Nurseries, Edinburgh. * * Mr. F. Follwell, for the past four and a half years foreman in the gardens at Foxbury, Chislehurst, as gardener to Charles Morley, Esq., M.P., Shockerwick House, Bath. * * Mr. Joseph Sangster, for the last four years steward and gardener to Mrs. Guinness, Burton Hall, Stillorgan, County Dublin, as head gardener and steward to Chas. R. Hamilton, Esq., of Hamwood, Dunboyne, Co. Meath. * * Mr. Chas. Brennan, lately foreman in the gardens of Sir Roger Palmer, Bart., Kenure Park, Rush, Co. Dublin, as head gardener to Geo. F. Brooke, Esq., D.L., Summerton, Castleknock, Co. Dublin.

Truro Daffodil Show.

An invitation has been received by the Royal Horticultural Society, and accepted, to visit a show of Daffodils and other early spring flowers and produce, to be held at Truro on April 15, 1902.

Nottingham Gardeners.

The members of the Nottingham Horticultural Society, finding they had a financial loss from their summer show, resolved to make good their resources by having a concert. This proved so successful that we hear those who were privileged to attend want another.

Chiswick Gardeners.

The next meeting of the Chiswick Gardeners' Mutual Improvement Society will be held next Thursday, February 20. On that date it is expected that Mr. R. J. Tabor, of Swanley Horticultural College, will deliver a lecture on "The Root; its Morphology and Physiology," with lantern illustrations. A goodly turn out is desired.

Edinburgh Gardeners.

It may not be generally known that gardeners in the North can become members of the Royal Caledonian Horticultural Society (office, 5, York Place, Edinburgh) on payment of an annual fee of 5s., and as associates for 2s. 6d. The society is now nearly 100 years old. The secretary asks: "May we not unite in giving it a great lift towards a record at that age?"

Birmingham Gardeners.

The annual tea and social gathering took place on the 5th inst. at the Colonnade Hotel. The President, Professor Hillhouse, F.L.S., occupied the chair, and Mr. Walter Jones the vice-chair, there being a goodly assemblage of the members and lady friends, and it was pronounced to be one of the best social gatherings yet held by the society. The proceedings were enlivened by an excellent programme of music and songs, and amongst the usual toasts and other amenities, Professor Hillhouse was heartily thanked for his welcome and genial presence.

Yorkshire Gala.

The programme for the forty-fourth year of the Grand Yorkshire Gala has been published. The handsome sum of £750 is again offered in prizes, the classes running to ninety-four, inclusive. The money is thus apportioned: £300 for Orchids, stove and greenhouse plants; £200 for Pelargoniums, Carnations, Begonias, &c.; £150 for Roses, cut flowers; &c.; £100 for fruits and vegetables, &c. Three gold medals for trade exhibits are also given, and prizes for tables of Orchids and ripe fruit respectively. Bootham Field, York, is the rendezvous, and the dates, as fixed, are June 11, 12, and 13.

Sweet Peas in Pots.

These also are extensively sown in pots about this time, to flower early in May, and perhaps this plant is the safest thing for one to begin with for the first time. Sow in a circle round the sides of large pots, say those 8in or 9in in diameter; and, as soon as the seedlings appear, allow them plenty of air, and merely guard them from frost and cold cutting winds, giving them water whenever the soil appears dry. When the plants are 5in or 6in high put a few twigs in the pots for them to cling to; and when they reach 1ft in height give them taller sticks, and large doses of water, as they are now strong feeders. A sheltered place out of doors, where the sun will get at them most part of the day, would be a suitable place for them after they are 6in high, and either to have some protection at night or to be taken indoors.

Properties of the Sweet Pea.

A Classification Committee of the National Sweet Pea Society furnishes the following regulations regarding the properties of Sweet Peas:—Form: The standards must be erect, waved, or only slightly hooded. The standard, wings, and keel to be in such proportion to each other as will constitute a harmonious and well balanced flower. Number of blooms on a stem: No variety shall be recognised that has not at least three blooms on a stem, gracefully disposed. Colour: Distinct and clear self colours are most to be desired, and, therefore, striped, watered, and edged flowers will not be awarded Certificates of Merit unless they present quite new and remarkable combinations. Exceptions: Perfectly distinct new colours, such as approaching the blue of *Salvia patens*, the yellow of *Coreopsis grandiflora*, or the scarlet of the Zonal Pelargonium shall be recognised, even if the variety should fall short of the foregoing properties.

Scottish Horticultural Association.

The name of the secretary of the above is Mr. Peter Loney, as mentioned by us on page 128 last week, and his address is 6, Carlton Street (not Terrace), Edinburgh. Will those who are interested please observe the corrected address?

Horticultural Lecture at Frome.

Mr. John Ettle, the Somerset county instructor in horticulture, recently gave a lecture on "Small Fruit Culture." Mr. J. W. Singer presided over an attendance of between fifty and sixty. There was a discussion on the desirability of introducing school gardens in Frome.

National Dahlia Society.

The annual general meeting of the society will be held at the Hotel Windsor, Victoria Street, Westminster, S.W., on Tuesday, February 25, at 3 p.m. All notices of motion should be in the hands of the secretary before February 12. Agenda:—Report and balance-sheet for 1901; election of officers; other business.—J. F. HUDSON, Hon. Sec.

Chrysanthemum Growers' Annual Outing.

At the annual general meeting of the National Chrysanthemum Society it was mentioned that the summer outing, in July, would this year be to the Paddockhurst estate, two miles from Three Bridges Station, in Sussex. Crawley, we believe, is the post town. Paddockhurst is the residence of Sir W. Pearson, Bart., M.P., the gardener being Mr. A. B. Wadds.

Royal Meteorological Society.

At the ordinary meeting to be held in the Rooms of the Society, 70, Victoria Street, Westminster, S.W., on Wednesday, the 19th inst., at 7.30 p.m., the following papers will be read:—"Report on the Phenological Observations for 1901." By Edward Mawley, F.R.H.S. "'La Lune mange les Nuages.'"—A Note on the Thermal Relations of Floating Clouds." By W. N. Shaw, M.A., F.R.S.

The Canadian Fruit Interest.

A new secretary (Mr. G. C. Creelman) has been appointed for the Ontario Fruit Growers' Association, leaving Mr. L. Wolverton, the late secretary of this body, free to attend more closely to the editorial duties involved in the monthly preparation of "The Canadian Horticulturist." Mr. Wolverton also hopes to visit the fruit growers of the various districts, and to get into closer touch with them.

Prescot Horticultural Society.

The secretary, Mr. W. Case, announces a slight loss on the year's working, but two social evenings have been given, and the balance is on the right side. Few societies have made a greater struggle to cater for the public, and with the enormous increase in population it is to be hoped that subscriptions will not in any way be withheld. The date of the annual show is fixed for July 31, Lord Derby having again kindly consented to a portion of his beautiful park being used for the purpose.

Croydon and District Horticultural Mutual Improvement Society.

A well attended meeting was held at the society's room at the Sunflower Temperance Hotel, George Street, on Tuesday evening. Mr. W. J. Simpson occupied the chair, and Mr. M. E. Mills the vice-chair. Mr. A. Maslen gave a very practical and useful paper on "The Seasonable Treatment of Vines." A hearty vote of thanks was accorded Mr. Maslen. Mr. M. E. Mills received a vote of thanks for a well-flowered pan of *Cœlogyne cristata*, also a nice plant of *Cypripedium villosum*. The paper was followed by a very interesting discussion, in which several of the members took part.—J. G.

Lindley Library.

This magnificent horticultural library, with which the Royal Horticultural Society's Library is incorporated, consists of 4,000 volumes and pamphlets. A catalogue of this collection has recently been issued. About £130 has so far been subscribed towards the cost of producing it, but this does not nearly cover the cost, and further donations are needed, and will be gratefully acknowledged by the trustees. This catalogue will, to a large extent, serve as a much needed guide to the literature and bibliography of gardening. The library is open daily (Sundays and holidays excepted) from 10 a.m. to 4 p.m.; Saturday, 10 a.m. to 1 p.m., except at times when the Council is sitting. On certain conditions Fellows can have the loan of some of the books.

Hardy Flower Notes.

Incarvillea Delavayi.

Undoubtedly one of the best and most distinct hardy plants of recent years is *Incarvillea Delavayi*, about whose hardiness a good deal of uncertainty appears to prevail in the minds of many plant lovers. In its general aspect it undoubtedly reminds one of some greenhouse plants, but from one's own experience, and from all one can learn from others, it is a perfectly hardy plant, and will stand with impunity colder weather than many flowers, about which no one ever expressed any doubt as to their perfect endurance. Its appearance is quite distinct from that of almost any other hardy plant of its season, and when it blooms well into autumn, as it will do if in a cold and shaded position, its flowers are peculiarly acceptable, for then is the time when the composites are in abundance, and we seek for something which will form a variety from their rounded flowers. Such is given us by the *Incarvillea*, with its flowers of Gloxinia, Bignonia, or Lapageria-like character, and its pretty and distinct pinnate leaves. The flowers are of a pleasing rose-red colour, and are large and handsome when well grown. They are produced with considerable abundance, according to the age and vigour of the plants; young and weakly ones often giving not more than one flower; while older and better grown specimens will yield from ten to fourteen.

One great feature of this *Incarvillea* is the ease with which it may be grown from seeds, which it produces and ripens freely. These may be sown when ripe, or left until spring, sowing them in pots or pans under glass, or, simpler still, in a warm border in the reserve garden. I have seen some vigorous specimens from seeds sown thinly in rows in the open and the seedlings left undisturbed until they flowered. When in pots or pans the seedlings are best transplanted young, and had I to grow a number for planting out when of some size, I should transplant into small pots singly. The roots of *Incarvillea Delavayi* are tuberous in their character, and descend for a considerable depth into the soil.

I have experimented with this plant for the purpose of testing its hardiness, and find that it will grow and flower well even in an almost sunless border, exposed to cold winds all spring, and in damp and heavy soil. It is long of making growth, and the blooming period is retarded until autumn, instead of summer, but here in such a position it has lived, flowered, and seeded for several years. Its general height is from 2ft to 3ft, but it varies according to the soil and moisture. I have observed that there is a dwarf variety offered on the Continent, but I am doubtful if it will be much of an acquisition in a plant such as this, which is much more effective when it is well and strongly grown. It is, perhaps, the best of the genus, which comprises several handsome plants, for general cultivation in the hardy plant garden. We owe it to Abbé Delavay, I believe, and his name is honoured in being associated with this fine Chinese plant. In conclusion, it may be well to add that seedlings may be two or three years before they flower.

Crocus marathonicus, syn. *niveus*.

No hardy plantsman worthy of the name is satisfied if he cannot find in his garden every day of the year some one or other of the flowers to which his affections are principally dedicated, though heavy snows or severe frosts may sometimes render him forlorn because he is unable to have his desires gratified. Yet, it must be said that there is still a great want of flowers in

many such gardens at times when they might be obtained—without some expense 'tis true. In late autumn, or more correctly early winter and the early days of the new year, this shortcoming is most strongly experienced. To meet it, then, we need to turn our attention largely to the Crocus, the Snowdrop, and the Colchicum, which in themselves may be trusted to redeem our gardens from the reproach of dulness at these times. The autumn and winter Crocuses in themselves might do this, but it is better to join with them the other genera already mentioned, as well as a few more to be trusted to give us something such as we seek.

One finds that some of these autumn and winter Crocuses with white flowers are thin in substance and easily destroyed by bad weather. Curiously enough it is to one of the latest introduced in quantity that we have to turn for the best of these. This is *C. marathonicus*; not that sold as Boryi var.

marathonicus, but another plant called sometimes *niveus*, and which would be better if recognised as *C. marathonicus*, syn. *niveus*, to distinguish it from the other, an inferior plant. The one of which I now speak was introduced, I believe, through the medium of Max Leichtlin, and is among the largest and finest of the autumn and winter Croci. It seems constant in its characters of size, substance, and colour, but it appears to vary a little in time of blooming, as I have corns planted at the same time which have varied from one to nearly two months in flowering. *C. marathonicus* syn. *niveus* is a little smaller than the best forms of *C. speciosus*, but is much stouter in substance, and thus better calculated to withstand bad weather. It is a good white, the base of the flower being yellow. It is a flower

of which such connoisseurs in the Crocus as Mr. E. A. Bowles have the highest opinion. Mr. Bowles is at the present time our largest British grower of the Crocus species and their varieties, and a plant of which he thinks so highly can confidently be recommended, apart even from one's own experience and observation.

Biarum or *Ischarum eximium*.

A catalogue which has just reached me from Asiatic Turkey reminds me of the curious, yet attractive *Biarum* or *Ischarum eximium*, an Aroid which was only introduced in 1898, but which is likely to become known better ere long, though it is not a flower which is brilliant enough for the average frequenter of shows. The few other species known as *Ischarums*, but now considered properly classed with the *Biarums*, are not so hardy as this, which comes from Western Cilicia, where it is a native of the mountains. It grows a few inches in height, and has broadish, simple leaves and dark purple spathes, having the exterior of a green colour spotted with red. It flowers here in autumn, and is curiously attractive when grown in a pan, though it is even more a subject of much value for the rock garden. It can be cultivated in common soil. One thing I did not know before, but which the catalogue before me informed me, is that this *Biarum* can be flowered without soil in autumn, and may be treated in a similar way to such Colchicums and Crocuses as are placed in moss or cocoa-nut fibre and thus flowered. It is not a method for which I care, inasmuch as it is generally secured at the expense of the welfare of the bulb or tuber, but still it is interesting to know, and may serve to draw attention to the uses to which *Biarum* or *Ischarum eximium* may be put. It is quite hardy, and well deserves the name of "eximium" or "choice." It certainly is a plant worthy of an award. The Royal Horticultural Society has not been quite so oblivious of its character.—S. ARNOTT.



Iris tectorum.

(See note on page 143.)

Wild Flowers: January.

I hope during the months of this year to give short notes on our native flowering plants, and shall try to write in such a manner that they may be interesting and useful, especially to the younger readers of the Journal. There has been much written at different times as to what young gardeners should study. Amongst other things botany has been included, and I think rightly so. A young man may not care to make a special study of it, but a knowledge of the natural orders of our native plants will often be found of great value in helping him to determine the names of exotic plants, especially among the herbaceous and alpine section. To give an instance. A gardener known to the writer was looking through a garden with the owner. When examining the herbaceous borders he noticed a plant in flower unknown to him. Upon inquiry he was informed that it was a

add that some curious names came to light. Many owners of gardens, especially ladies, are interested in wild flowers. Although a knowledge of these may not be indispensable to a gardener, nevertheless he will often find that it may be greatly to his advantage.

There are very few of our native plants in bloom during the month of January, and some of these we are apt to look upon more as obnoxious weeds than flowers. The common Groundsel is a plant that everyone is familiar with; this may generally be found in flower. It is one of our most common weeds of cultivation, but it has some showy relations. Our greenhouse Cinerarias, which are so useful during the winter and spring months, are very closely allied to this common weed. *Poa annua*, a small growing annual grass, is another plant that may be found in flower nearly all the year through. It may be found in almost every part of the globe. In gardens it is a most troublesome weed. It is said to be a chief ingredient in the grass of some of the London parks. The common Daisy, *Bellis perennis*,



Apple, Stirling Castle. (See note on page 141.)

Verbascum. The gardener intimated that he thought it was wrongly named, but was assured that it was the name sent with it from the nursery.

Although he did not know the plant, he explained to the gentleman that it was not a *Verbascum*, as the structure of the plant did not agree to the natural order to which the *Verbascum* belonged, the specimen in question having a square stem, opposite leaves, a four-lobed ovary, and the four small nuts in the bottom of the calyx, resembling naked seeds; these characters placing the plant in the natural order *Labiatae*, which is represented by *Salvia*, *Lavender*, *Rosemary*, *Mint*, *Thyme*, &c. Other instances could be given. At some of the shows held during the summer and autumn months prizes are offered for wild flowers; in some cases substantial amounts. Generally these are for the best arranged bouquets. This is an interesting feature at the great Shrewsbury Show, and one that we think might be enlarged.

In many of our elementary schools a greater interest is fostered amongst the children by having flower gardens, and also shows, for wild flowers. At a show of this kind I was asked to officiate as judge, and where prizes were offered for twelve varieties I suggested that the children should be requested to attach the names as far as they could. It is scarcely necessary to

may often be found in flower in midwinter, and it is well known to all.

This small plant, however, belongs to the most extensive family among flowering plants. Many who pluck a Daisy look upon it as an individual flower, whereas it is composed of a quantity of very small flowers, tightly compressed into a head, and is known as a composite flower. The Shepherd's Purse, *Capsella Bursa-pastoris*, is one of our most common garden weeds, and blooms nearly all the year round. It may be easily recognised by its triangular seed pods, which is supposed to resemble a shepherd's purse, hence its common name. It belongs to a most important family, which is represented in our gardens by all the Cabbage tribe, Turnips, Mustard, and Cress, Radishes, &c., among vegetables; Stocks, Wallflowers, Candytuft, and other flowers. One other flower we should like to name, and that is *Ulex europæus*. This has several common names, used in different parts of the country. In the north it is generally called Whins; other names are Furze and Gorse. This flowers generally in early spring, but sometimes flowers may be found in winter. This is a more showy flower than others mentioned, but perhaps it is too common to be much appreciated. It is a member of the very showy and most useful family, the *Leguminosæ*.—FIELD BOTANIST.

Obituary.

Mr. Leonard Kelway.

We regret to announce the death, on February 5, at the early age of twenty-one, of Mr. Leonard Kelway, second son of Mr. William Kelway, of Brooklands. Death was attributed to influenza, complicated with meningitis and pneumonia. Leonard Kelway was born at Riverslea, Langport, in 1880. He was educated at Sherborne School (Wilson's House), which he entered in 1894. He always took the keenest interest in athletics, and was probably the best gymnast Sherborne has produced since the erection of the gymnasium. He was one of two to represent the school, for three years in succession, at Aldershot in the Public Schools Gymnasium Competition. He was a member of the Cadet Corps, captain of the "Gym.," captain of his House, and member of the School Games Committee for some terms previous to his leaving Sherborne, in 1898, to join the firm of Messrs. Kelway and Son. Much sympathy is felt for the family in the loss of a promising young life.

Mr. F. J. Graham.

The death a few days ago at Cranford, Middlesex, of this at one time well-known horticulturist, at a very advanced age, probably failed to attract the notice of the horticultural community. Mr. Graham had outlived most of his contemporaries. A noted fruit cultivator and market gardener, he was thirty or so years ago an active member of the Fruit Committee of the R.H.S., and an intimate friend of the late Dr. Hogg. He was for a long time a Fellow of the R.H.S., and he was a subscriber to the funds of the International Horticultural Exhibition and Botanical Congress of 1866. In the "Florist and Pomologist" for July, 1864, can be found a coloured illustration of Graham Yellow Perfection Wallflower, and it was the result of careful seeding and selecting through many generations. A plant of this shown by Mr. Graham at one of the meetings of the R.H.S. at South Kensington, in the spring of 1863, received a commendation as a beautiful bright coloured hardy spring flower, and it was described as being remarkably sweet scented. Such present day yellow Wallflowers as Cloth of Gold and Carter's Old Gold have probably been derived from it.—R. D.

Royal Horticultural Society.

Drill Hall, February 14th.

The cold weather on Tuesday last did not detract much from having a splendid show of seasonable plant collections in the Drill Hall. We furnish rather a summary report on this occasion, owing to the pressure of other matters in connection with the Society.

Messrs. Wm. Paul and Son, Waltham Cross, sent a fine collection of that beautiful Clematis indivisa and its variety C. i. lobata. (Silver Flora Medal.) Messrs. Cannell and Sons, Swanley, staged Chinese and Star Primulas in great array, the flowers being large, well formed, and of good substance and colour. (Silver Flora Medal.) Messrs. J. Veitch and Sons, Royal Exotic Nursery, Chelsea, had a group of Coleus thyrsoideus, Amygdalus persica magnificus, A. Davidiana alba, Rhododendron dahuricum, and Loropetalum chinense, all of them worthy of being specially noticed. From the Enfield Nurseries of Messrs. Hugh Low and Co. came Cyclamens in great diversity, while Messrs. Barr and Sons, King Street, Covent Garden, had another sweet group of Irises and the spring flowering plants generally. (Bronze Banksian Medal.) Messrs. Cutbush and Son, Highgate, London, N., placed together a showy bank of Rhododendron Jacksoni, grown in pots, and having trusses of pink flowers.

Cœlogyne cristata, a plant in a 12in pan, was shown from G. Bliss, Esq., 127, Tulse Hill, S.W., crowded with blooms. Jeremiah Colman, Esq., staged a number of hybrid Dendrobiums.

From Messrs. James Veitch and Sons, Limited, Royal Exotic Nursery, Chelsea, came a bright collection, including Lælia x Mrs. M. Gatrix, Lælio-Cattleya Myra, L.-C. Doris Xantha, L.-C. Queen Alexandra, very large and handsome, with rich purple lip; Phalaenopsis Hebe, Dendrobium imogen, primrose coloured; and D. Ophir, deeper yellow. (Silver Flora Medal.)

Messrs. Charlesworth and Co., Heaton, Bradford, sent Houletia odoratissima (chocolate brown), Lælia Mrs. M. Gatrix, Oncidiums, Cymbidium grandiflorum, and other subjects. (Silver Flora Medal.) Messrs. Hugh Low and Co., Enfield, sent up Dendrobium nobile virginale, Cypripedium Hellen, and other plants.

The Fruit Committee had a number of exhibits engaging their attention. Messrs. Cheal and Sons obtained a Silver Knightian

Medal for a large collection of Apples; Messrs. Laing were also strong with the same fruit, showing Mère de Ménage well, and also Gloria Mundi, Tyler's Kernel, Beauty of Kent, andringham, and others. They also had a group of stove and greenhouse plants. Mr. W. J. Caperne, Rohais, Guernsey, sent a number of bunches of his early flowering hybrid Irises, but no awards could be made.

Messrs. Geo. Bunyard and Co., Maidstone, filled the whole side of one table with dishes of Apples, one hundred in all. To mention some of the handsomest of these we would include Ribston Pippin, Peasgood's Nonesuch, New Hawthornden, Waltham Abbey Seedling, Newton Wonder, Stirling Castle, Hoary Morning, Lady Henniker, Bismarck, Washington, Annie Elizabeth, Lane's Prince Albert, Dutch Mignonne, Royal Russet, and King of the Pippins. The quality of all of them showed not the least sign of falling off. (Gold medal.)

Seakale was sent by Messrs. Veitch and Sons, Limited, there being Lilywhite, yellow coloured; the Common Red, and a greatly superior cross from these named Berrard's Seakale. This variety is stronger in growth, easy to force, mild and satisfying in flavour (according to those who had tasted), and coloured not too deeply. The consensus of opinion was that here we have a grand acquisition.

The Messrs. Cannell showed Onions, Coconut, Ailsa Craig, Masterpiece, and Reading Improved. A nice tender bunch of Asparagus came from Syon House; Mr. R. Baylor Hartland, of Cork, sent Ballimore Pippin Apple, the Earl of Ilchester, Pear Bergamotte Esperen (about which some disagreement occurred last year in regard to according an Award of Merit).

Certificates and Awards of Merit.

Cymbidium Lowio Mastersi (Charlesworth and Co.).—A very pale greenish primrose sepals and petals, with rich purple coloured lip. (Award of Merit.)

Ipsca speciosa (J. T. Bennet Poë).—A cultural commendation was awarded to Mr. Bennet Poë for a plant of the above, bearing five large yellow flowers.

Lælio-Cattleya Queen Alexandra (J. Veitch and Sons, Limited).—Large and strong, with plenty of substance. The sepals and petals are deep mauve: the petals very large, and with crimped and fringed edges. The lip is enormous, and deep purple, of velvety texture. The throat is orange. (First Class Certificate.)

Odontoglossum Halliocrisum Heatonense (Charlesworth and Co.).—Deep yellow ground colour on sepals and petals, thickly marked with deep chocolate spots and bars. (Award of Merit.)

Annual General Meeting.

A large assemblage of Fellows gathered in the Drill Hall at 3 o'clock on Tuesday, at the annual general meeting. Sir Trevor Lawrence occupied the chair, and was supported by most of the councilmen. He opened the proceedings by remarking that though the hall was far from being an agreeable one, yet before long he hoped the Society might have one of its own. At the chairman's suggestion, gentlemen were allowed to wear their hats at the meeting. The minutes of last annual general meeting having been read, the names of fifty-eight persons, with four societies for affiliation, were read by Mr. Harry J. Veitch for election, and this was agreed to by all. Mr. Geo. Paul now proposed a vote of thanks to a retiring councilman, to wit, Sir John Llewlyn, Bart., for his past services to horticulture and the Society. A distance of 200 miles from London prevents Sir John from being a regular attendant at the meetings, and he himself, in returning an acknowledgment, said that it was a healthy rule that necessitated the retirement of those councilmen who did not regularly attend. The chairman then introduced the report (as given hereunder), remarking that the year's work was most satisfactory. There had been a numerical increase of 930 new Fellows, and it was very evident that the recruiting round was by no means exhausted, for 180 new Fellows had been elected during the current year. The total number of Fellows, in round figures, he stated to be 5,500.

Report of the Council for 1901 (Abridged).

"It is very gratifying to the Council to be able to record that in the first year of the new century a larger number of new Fellows have joined the Society than in any year since its first establishment in 1804. The exact number of new Fellows elected this year has been 930, which, if contrasted with the 1,108 who formed the whole number of the Society in January, 1888, of whom only 552 were subscribing Fellows, indicate the development which has taken place in the Society recently.

"A corrected list of the awards made by the Society to plants, flowers, fruits, vegetables, &c., to the end of 1899 has been issued. It has involved a great deal of labour and research, and the thanks of the Society are due to those gentlemen who assisted in the work, especially to those who prepared the section which deals with Orchids. The price of the entire volume has been fixed at 5s. (or the Orchid section can be obtained separately, interleaved, at 5s.), and the Council hope that many Fellows

will take advantage of the information it contains in order to meet the unavoidably heavy expense incurred in its publication.

"During the past year the Council have carried through an appeal against what they considered the unfair rating of Chiswick, and have succeeded in reducing the assessment very considerably. Under the head of ordinary expenditure at Chiswick £1,923 has been spent on the general work and maintenance of the gardens. The receipts by sale of the surplus produce amount to £347, making the net ordinary cost of the gardens £1,576.

"The Council wish to call attention again to the good work done at Chiswick under Mr. Wright's superintendence, not only in the garden, but among the students. Mr. Wright reports to the Council: 'The demand for energetic, trustworthy young men from Chiswick is rapidly increasing; there is no difficulty in placing such in good situations, our supply being unequal to the demand, but they must all be workers. During the past year applications were received for thirty-four head gardeners, nine single-handed gardeners, six foremen, eight journeymen, and several miscellaneous men, such as landscape gardeners, propagators, &c.'

"At Westminster, twenty-two fruit and floral meetings have been held in the Drill Hall, Buckingham Gate, Victoria Street, besides the larger shows in the Temple Gardens on May 22, 23, and 24; at the Crystal Palace on October 10, 11, and 12; and at Chiswick on July 16 and 17 on the occasion of the Conference on Lilies. Lectures or demonstrations have been delivered at almost all of the meetings.

"The number of awards granted by the Council, on the recommendation of the various committees, was:—Gold Medals, 25; Silver Cups, 22; Hogg Memorial Medals, 4; Silver-gilt Flora Medals, 52; Silver-gilt Knightian Medals, 16; Silver-gilt Banksian Medals, 40; Silver Flora Medals, 122; Silver Knightian Medals, 22; Silver Banksian Medals, 205; Bronze Flora Medals, 31; Bronze Knightian Medal, 1; Bronze Banksian Medals, 33; First Class Certificates, 56; Awards of Merit, 300; Botanical Certificates, 13; and Cultural Commendations, 41; total, 983.

"In addition to the above, a Silver-gilt Flora Medal was awarded to Miss E. M. Watkins for having passed first in the Society's Examination. One hundred Bronze Banksian Medals have also been granted to Cottagers' Societies.

"During the past year the Scientific Committee of the Society has been greatly revived and enlarged. The Council desire to draw the attention of Fellows to the more extended use which this committee might be to them if they availed themselves more freely of their privileges in submitting instances of disease of, or injuries to plants, caused by insects or otherwise. The Council have arranged, at the request of the National Tulip Society, for its exhibition to be held in conjunction with the Society's meeting on May 20, 1902, and for the National Dahlia Society to hold a committee meeting at the Drill Hall, on September 23, and a two days show on September 2 and 3. The National Auricula and Primula Society will, as usual, hold its annual show in conjunction with the Society's on April 22, and the Carnation Society will do the same on July 22. Full particulars of these meetings will be found in the book of arrangements, 1902. The Exhibition of British Grown Fruit held by the Society at the Crystal Palace on October 10, 11, and 12, was, from an educational point of view, most satisfactory. As an object-lesson in British fruit cultivation this annual show stands unrivalled, and is of national importance. Those who have visited it from year to year cannot fail to have been impressed by the wonderful advance which has been made in the quality of the hardy fruits exhibited. And as the importance of fruit-growing in this country cannot well be over-estimated, the Council invite Fellows and their friends to support them in their efforts to maintain and improve this exhibition by visiting it and by subscribing to its funds. For it cannot be too widely known that the continuance of the show is absolutely dependent on at least £100 being raised by subscriptions each year towards the prize fund. The show involves the Society in a very large expenditure without the possibility of any financial return. The Council cannot therefore continue it unless sufficient interest in it is taken by Fellows and their friends to provide £100 towards the prize fund. And this will in coming years be even more important than heretofore, as the directors of the Palace have signified to the Council that they feel compelled to still further decrease their contribution for 1902 by yet another £50. A glance at the list of subscribers will show how small has been the interest taken by the bulk of the Fellows. The Council would point out that this is not a local show with a few large prizes, but that a large number of small prizes have been provided in order to secure the best fruits in each section; special prizes have been allotted to market growers; and counties have been grouped in such a way that growers should not have to compete with exhibitors from localities more favoured by climatic conditions. These points will be still further extended should sufficient financial support be forthcoming. Subscriptions should be sent at once to the Secretary, 117, Victoria Street, Westminster, and if the list prove satisfactory the schedule will be issued in April, and the

show held on September 18, 19, and 20, 1902. The list of subscribers for 1901 will be given in vol. xxvi. part 4 of the Society's Journal.

"The Council have accepted an invitation to send delegates to a Conference on Hybridisation, which is to be held at New York in the autumn of 1902, and are glad to be able to announce that Mr. W. Bateson, M.A., F.R.S., V.M.H., and Mr. George Nicholson, V.M.H., have consented to attend on behalf of the Royal Horticultural Society.

"In consequence of the great difficulties experienced in sending plants satisfactorily to Fellows residing abroad, the Council have decided that in future no plants will be distributed to Fellows abroad, but in lieu thereof the Council will endeavour to obtain and supply to such Fellows any rare or unusual seeds (to a reasonable amount), which they may be unable to obtain in their own country. The Journal of the Society has been continued so as to enable Fellows at a distance to enter more fully into, and reap the benefits of the study and work of those actively engaged at headquarters. A new feature has been added during the past year which it is hoped may be recognised by the Fellows as one of particular value and interest, viz.: Notes on Recent Research, and Abstracts from all the principal horticultural and botanical periodical literature of the world. The Council desire to tender their particular thanks to the distinguished body of experts who have so ungrudgingly devoted their time and attention to this object.

"An examination in the principles and practice of Horticulture was held on April 24, concurrently in different parts of the United Kingdom, a centre being established wherever a magistrate, clergyman, schoolmaster, or other responsible person accustomed to examinations would consent to act on the Society's behalf, in accordance with the rules laid down for its conduct. No limit as to the age, position, or previous training of the candidates was imposed. Two hundred and twenty-five candidates presented themselves for examination. The names and addresses of those who succeeded in satisfying the examiners, together with the number of marks assigned to each, will be found in the Society's Journal, vol. xxvi., page 267. It is proposed to hold a similar examination in 1902, on Wednesday, April 23. Candidates wishing to enter for the examination should make application during February to the Secretary, R.H.S. Office, 117, Victoria Street, Westminster.

"Valuable books have been presented to the Society during the past year. The thanks of the Society are due to all the members of the standing committees—viz., the Scientific, the Fruit and Vegetable, the Floral, the Orchid, and the Narcissus Committees, for the kind, patient, and often laborious attention which they have severally given to their departments. Many of the members of these committees have to travel long distances to attend them. The thanks of the Society are especially due to all who are so good as to serve under these conditions. In response to a very general feeling, the Council have decided that when the proposal of an award has been made at any of the five standing committees of the Society, it shall not be considered as 'carried' unless the number of votes recorded for the proposal be at least double the number voting against it. The Narcissus Committee will in future be known as the Narcissus and Tulip Committee. Should Tulips be exhibited at any date when this committee is not sitting, the Floral Committee will be requested to take them in hand.

"The Council wish to express, in their own name and in that of the Fellows of the Society, their great indebtedness to all who have contributed, either by the exhibition of plants, fruits, flowers, or vegetables, or by lectures or papers, to the success of the fortnightly meetings in the Drill Hall. Besides these lectures, there have been the valuable papers recently published in the Report of the Lily Conference, as well as several floral demonstrations by Professor Henslow. Two series of lectures have also been given to the students and others at Chiswick, one series by Professor Henslow and another by Mr. George Masee, F.L.S., short accounts of which have appeared in the Journal.

"The Council have the sad duty of recording the death of 93 Fellows during the year, and among them are many eminent names. It will be fresh in the memory of the Fellows, that at the Jubilee of the late Queen in 1897, the Council, with Her Majesty's gracious assent, established the Victoria Medal of Honour in Horticulture in order to perpetuate the remembrance of Her Majesty's glorious reign, and to enable the Society at the same time to confer a conspicuous honour on those horticulturists whom it might from time to time consider deserved special honour at the hands of the Society. At the time of its institution this medal was confined to sixty recipients, corresponding to the then sixty years of Her Majesty's reign. It, therefore, seemed to the Council only fitting that at Her Majesty's death the number of Medallists should be increased to 63, representing the full number of years of her reign. During the past twelve months the medal has been conferred upon Miss Ormerod, LL.D., Sir George King, K.C.I.E., Mr. William Bateson, M.A., F.R.S., Mr. James Sweet, and Mr. George Norman.

“ The following table will show the Society’s progress in regard to numerical strength during the past year :—

DEATHS IN 1901.				FELLOWS ELECTED 1901.			
		£	s. d.			£	s. d.
Life Fellows	24....	0	0 0	4 Guineas	3 ..	12	12 0
4 Guineas	0 ...	0	0 0	2 „	170....	357	0 0
2 „	21....	4	2 0	1 „	718....	753	18 0
1 „	48....	50	8 0	Associates	10....	5	5 0
				Affiliated Societies ..	11....	11	11 0
	93	£94	10 0	Commutations	18.. }		
	--			= £500 2s. 6d.....	.. }		
						930	£1140 6 0
				Deduct Loss		238	7 0
RESIGNATIONS.				Net Increase in Income			
		£	s. d.			£901	19 0
4 Guineas	0 ...	0	0 0	New Fellows &c.			950
2 „	13 ..	17	16 0	Deduct Resignations and Deaths			212
1 „	101 ..	105	1 0				
	119	£143	17 0	Numerical Increase			718
Total Loss	212	£238	7 0				

The total number of Fellows, Members, Associates, and Affiliated Societies is now exactly 5468.

“A scheme for the affiliation of local horticultural societies was put forward a year or two since, and 116 local societies have availed themselves of it. In order to enhance the utility of the Society to others affiliated to it, the Council have caused a special card to be prepared suitable for use by affiliated societies, for the purpose of granting certificates or awards, or for complimentary cards of thanks, commendation, &c. They have also caused a new medal to be struck which is to be used by affiliated societies only. The Council express the hope that Fellows will now actively promote the affiliation of local horticultural or cottage garden societies in their own immediate neighbourhood.

“On the kind invitation of the Earl and Countess Ilchester the Council have decided to hold a conference on and exhibition of Roses, at Holland House, Kensington, in connection with one of the ordinary fortnightly meetings of the Society. This conference and show will take place on Tuesday, June 24. The programme for the ensuing year will be found in the Arrangements for the year 1902, lately issued to all Fellows.

**Annual Revenue and Expenditure Account for the Year ending
December 31, 1901.**

The items are given in full in the printed Report of the Society.

Dr.							£	s.	d.
To Establishment Expenses	..	..	..	..	..	..	3,157	12	1
„ Lindley Library	..	..	..	..	..	..	16	18	9
„ Expenses of New Charter	..	..	..	..	..	..	140	13	6
„ Shows and Meetings	..	..	..	..	..	..	1,334	8	0
„ Prizes and Medals	..	..	..	..	..	..	488	4	3
„ Chiswick Gardens	..	..	..	..	..	..	1,923	15	2
							7,061	12	7
„ Balance, carried to Balance-sheet	..	..	..	..	..	..	2,251	4	6
							<u>£9,312</u>	<u>17</u>	<u>1</u>
Cr.							£	s.	d.
By Annual Subscriptions	..	..	..	..	..	..	6,025	1	11
„ Shows and Meetings	..	..	..	..	..	..	1,867	4	1
„ Advertisements in Journal	..	..	..	..	..	..	523	1	5
„ Sale of Journals	..	..	..	..	..	..	68	11	10
„ Miscellaneous Receipts	..	..	..	..	..	..	36	16	0
„ Dividends	..	..	..	..	..	..	357	8	7
„ Interest on deposit account	..	..	..	..	..	..	22	9	1
„ Prizes and medals	..	..	..	..	..	..	65	1	0
„ Chiswick Gardens	..	..	..	..	..	..	347	3	2
							<u>£9,312</u>	<u>17</u>	<u>1</u>

HARPER BROS., Chartered Accountants, 10, Trinity Square, E.C.

BALANCE-SHEET, DECEMBER 31, 1901.

	£	s.	d.	£	s.	d.
To SUNDRY CREDITORS—						
Head Office	97	9	3			
Chiswick	58	11	7			
Painting Orchid Certificates	13	7	9			
				169	8	7
„ SUBSCRIPTIONS, 1902, paid in advance	176	18	6			
„ ADVERTISEMENTS, 1902, paid in advance	5	10	0			
				182	8	6
„ LIFE COMPOSITIONS, December 31, 1900	1,195	10	0			
Ditto Ditto Ditto 1901	500	2	6			
				1,695	12	6
„ CHISWICK SCHOLARSHIPS—						
Amount Received	75	0	0			
„ Expended	72	18	4			
				2	1	8
„ GENERAL REVENUE ACCOUNT—						
Balance, January 1, 1901	9,237	5	8			
Less Orchid Certificate Paintings	36	1	3			
	9,201	4	5			
Less Bad Debts	4	7	9			
	9,196	16	8			
Balance for the year 1901, as per Revenue and						
Expenditure Account.. .. .	2,251	4	6			
Adjustment of Interest on Investments	25	5	10			
				11,473	7	0
				£13,522	18	3

	£	s.	d.		£	s.	d.
By SUNDRY DEBTORS—							
Annual Subscriptions outstanding, estimated at ..			5	5		0	
Garden Produce			21	4		5	
Advertisements			103	0		1	
Rates and Taxes (Chiswick) paid in advance ..			25	8		4	
Interest on Investments			112	6		11	
							<u>267 14 9</u>
,, INVESTMENTS—							
2 $\frac{3}{4}$ per cent. Consols £2,122 8s. 9d. cost			1,892	11		3	
(£2,022 8s. 9d. of this sum is held by the Society, subject to the provisions of the will of the late J. Davis, Esq.)							
2 $\frac{3}{4}$ per cent. Consols £2,813 cost			2,768	5		0	
3 per cent. Local Loans £5,800 „			6,006	16		6	
37,000 Rupees, Indian Rupee Paper „			2,412	14		4	
							<u>13,130 7 1</u>
,, CASH AT LONDON AND COUNTY BANK—							
On Current Account			118	10		6	
Petty Cash (Head Office)			6	5		11	
							<u>124 16 5</u>
							<u>£13,522 18 3</u>

We have audited the books from which the above Accounts are compiled, and certify that they exhibit a true and correct statement of the position of the Society on December 31, 1901.

HARPER BROS., Chartered-Accountants.

Sir Trevor referred to paragraphs that had appeared in the papers stating a possibility of union between the Royal Botanic Society and the Royal Horticultural. It was true that the Council of the latter had received a very courteous letter from the Royal Botanic Society, inviting them to make use of that Society's gardens at Regent's Park. The Royal Horticultural Society, however, had already made arrangements of its own, and the kind request could not be accepted. The Inner Temple Gardens for the May show have many advantages, such as "centrality" and accessibility, that commend themselves, so that they need not remove from there, he thought, so long as the Benchers still proved so generous. He then touched on several paragraphs of the report, referring to the valuable work performed by the Scientific Committee in giving advice on diseases of plants and other matters. He noticed that 983 awards had been given to plants during the year, which, he was of opinion, was too many, and the new rule—that of a two-third majority before an award is ensured, was a step to remedy matters. Awards, he said, lose their value in accordance with their multiplication. Sir Trevor noted with pleasure that many of the separate societies, as the National Carnation and Picotee, the Auricula and Primula, the National Tulip, and others, were coming more under the wing of the parent Society, and nothing would gratify the Council more than that close unity should be fostered. In connection with the deputation to the American Hybridisation Conference to be held in the autumn, the name of Captain Hurst had been added.

A few interesting remarks were devoted to the Society's Journal. This has greatly improved, said Sir Trevor, during the last few years, under the very able editorship of Rev. W. Wilks, M.A., and for a society of the nature of the R.H.S., had probably nearly reached perfection. The cost of printing and postage of the Journal is £1,506, though the net cost is £915, when £523 for advertisements and £68 for the sale of copies is deducted. This amount (£923), he thought, was well spent money. The Abstracts were a new and valuable feature.

In paragraph 18 of the Report an alteration was necessary. This refers to the date of the Society's annual examination in horticulture. A suggestion had been made to hold this in February, but it had since been pointed out that the Society would lose many of its candidates, and it was therefore necessary to fix April as the month for the examination. The dates for the Rose Conference (June 24 and 25 next) are finally fixed, and it was hoped that this event would be a very successful one.

The chief point of interest, however, was left to the last, and Sir Trevor did not divulge much in regard to the negotiations that have been going on in regard to procuring a suitable site for an horticultural hall. Five sites have been considered by a committee, consisting of Baron Schröder (as chairman), N. N. Sherwood, Esq., Harry J. Veitch, Esq., Dr. Masters, Sir Trevor Lawrence, Bart., H. B. May, Esq., and Rev. W. Wilks (as secretary). One of these sites has found favour, and during the last few weeks has been the object of careful consideration. A regard for the best interests of the Society in connection with this

matter forbade the chairman from giving any fuller particulars. He, however, stated that no final steps would be made without obtaining the consent of a majority of the Fellows. The matter will be ripe shortly, and a general meeting will be called. Dr. Masters seconded the adoption of the report, and said that he would not let "the cat out of the bag" more than the chairman had done, but he could assure the Fellows it was a very fine "cat" indeed. Mr. Alex. Dean asked whether the contemplated hall would be likely to be erected and ready for the Centenary, in 1904, and further inquired whether a great International Exhibition might not be advisable to celebrate both the opening of the hall and the Centenary? Sir Trevor said that the latter proposal had been mooted in Council, but caution was advisable. The £80,000 left (lost) at South Kensington must not be forgotten. Regarding the completion of a hall by 1904, the Fellows could rely on every possible exertion being made.

A Fellow called attention to the glazed paper used for, and another to the uncut edges of, the Society's Journal. Glazed paper, said the chairman, was necessary if the beauty and clearness of the illustrations was to be maintained, and the second point he gave next to no attention to, merely remarking, as he sat down, that all who care anything for books at all would never dream of having the edges cut. We are sure this feeling does not pervade all book-lovers, and most certainly we would like to see the Journal of the Royal Horticultural Society with the edges cut.

Mr. A. W. Sutton concluded the business by proposing the following resolution:

"This meeting is glad to hear from the president that steps are being taken to secure a site for a hall, and pledges itself to give its most favourable consideration to any proposal which the Council, in due course, may lay before it." Surgeon-Major Ince seconded.

A vote of thanks to the chairman was the last act in the afternoon's meeting, which lasted fifty minutes, was full of interest, and largely attended.

Richard Dean Testimonial.

In a paragraph last week we briefly referred to this testimonial presentation ceremony performed under the chairmanship of W. Cuthbertson, Esq., at the Royal Aquarium, Westminster, on the evening of February 4. After the Royal toasts had been given, Mr. Cuthbertson delivered a speech full of good points. He referred to Mr. Sherwood's very kind-hearted and unceasing interest and help during the time the testimonial had been preparing. It was with sincere feelings of thankfulness that he and all present had learned of Mr. Sherwood's improved health, and he trusted that before long he would again be among them in activity. In a few sentences the chairman summarised the chief works in which Mr. Dean's part had been conspicuous. The spontaneity of the response to the appeal sent out by the Testimonial Committee had been remarkable. A large number of names came flowing in, quite outside from those to whom circulars had been sent, and this, he thought, showed the high appreciation of Mr. Dean's services that existed. For twenty years Mr. Cuthbertson had known Mr. Dean, and though at times the old floriculturist proved "a terror for his size," yet they all knew that his heart was right. Officiating at such shows as Shrewsbury and Wolverhampton, Mr. Cuthbertson had been Mr. Dean's equal, but never yet his superior. "I have been his host in the far away island of Bute, and I have been his guest at Ealing. It is a very happy privilege now to present you," said the chairman, turning to Mr. Dean, "on behalf of the subscribers, with this Address and accompanying purse of £300, given on entering your seventy-third year, for the good work you have done for horticulture in past years. Here are the names of nearly 300 subscribers, and among them you will find the names of Sir Joseph Hooker, eminent in science; Sir Albert Rollit, who represents all that is best in the world of business; the Very Rev. the Dean of Rochester, and others, eminently representative. This Address will be a silent testimony to the esteem in which you are held by your fellow workers in horticulture. I hope that God may grant you yet health and strength to safely reach the summit of four-score."

"May there be no sorrow in your song,
No winter in your years."

Mr. Dean stood while the peroration was delivered, and when the presentation had been made he sat down for a few moments. On rising his first words, spoken falteringly, were:—"Gentlemen, there are times in the life of man when the heart is almost—" and the veteran was overcome for a time. Again rising, he continued: "I hope you will pardon this weakness gentlemen; after all it is only human. I can say with the poet, 'We feel what we cannot all express.' When this movement was first put on foot to present this magnificent present I had no idea that it would reach what it has reached. I am deeply grateful to all who have contributed, no matter how small the sum. I am especially

grateful to Mr. Sherwood, and we all sympathise with his two sons during the illness that has afflicted a man overburdened in business. To Mr. Cuthbertson, Mr. Jones, Mr. Wilkinson, and Mr. Ballantine I am also deeply grateful. I can claim to have been a gardener all my life. I was the son of a gardener, born at the celebrated nursery of Messrs. Bridgeworth, in the south of England, where my father was foreman. At the age of thirteen I had to turn out and do what I could for my own living. I was able and glad to help, in certain ways, the old department, and I became a worker in the garden till I was eighteen years of age. This was a period of great political events. The French Revolution had broken out in 1848, and the Potato famine in Ireland caused distress beyond measure, exciting Daniel O'Connell to his tremendous agitations. The Revolution spread all over Europe. Taxes were high, and the conditions were such that it was no wonder the pulses of a young man became deeply stirred with the public doings.

"I became an under gardener in 1849 to a gentleman who afterwards attained the honour to be Mayor of Southampton, and who now made me his body-servant during the time that he was Mayor. I remember seeing and hearing speak, among others at this time, the great Hungarian patriot, Kossuth, William Makepiece Thackeray, and the Lord Mayor of London. I went to all the municipal banquets and civic functions, and that was my introduction to a new life, and inspired me to reach to something higher and better—a perfectly natural ambition as I think. My principal entry to horticulture was in 1853, when I joined Mr. Charles Turner's staff in his nursery at Slough, for the wages of 14s. a week. I made myself useful to Mr. Turner, and remember going to some of the great Chiswick gatherings, travelling all night in a great van to attend the next day's show. It was here that I gleaned some of that knowledge of shows that has been so useful to me in after life. In 1857 I entered the nursery of Messrs. Beckenson and Child, in London. Before long Mr. Charles Turner came to me and said that a secretary was required for the National Floricultural Society. This society was established in 1851. A central figure in London floricultural circles at this time was George Glenny, but out of a mistrust of him grew the National Floricultural Society, with Mr. John Edwards as its first secretary. In 1858 the first great National Rose Show was held, in St. James's Hall, and I then assisted the present Dean of Rochester; and in September of that year I again assisted.

"In 1861, to my great joy, I received an invitation from Mr. George Eyles to judge at Southampton, which was my first entry as a judge. The old Horticultural Club at this time used to meet once a month at Anderton's Hotel, London, where such worthy and well remembered men as John Downie, Dodds, Dr. Hogg, Arthur and Andrew Henderson, Robert Marnock, Thomas Moore, the brothers Lee, William Paul, and others met. Of these, only William Paul remains. They were men of great natural ability, who did their work in their day and passed away. I wonder if there is a sort of continual existence for those men on the slopes, may-be, of old John Bunyan's 'Delectable Mountains,' where they can foregather and have converse about the flowers they grew here together? In 1865 I went to Messrs. F. and A. Dickson's, but not being quite comfortable there, Dr. Hogg invited me to the secretaryship of the great International Exhibition of May, 1866. For this marvellous exhibition we covered in three and a half acres, and the total receipts amounted to £1,618 4s. 7d. There were 110 judges. At the end of the fourth day of the show we learned that a knowledge of the great horticultural exhibition being held in their midst was beginning to dawn on the London public. For five days longer it was continued, and resulted in a total surplus of £3,000. A considerable portion was given to the Royal Gardeners' Benevolent Institution, and another sum was devoted to the purchase of the Lindley Library, and a further amount spent in the preparation of a report of the proceedings. The ground for the exhibition was laid out by a committee, consisting of Messrs. J. Gibson, Standish, and Robert Fortune. That exhibition was such the like of which may not be seen in London for a considerable time. Subsequent to the exhibition, Sir Charles Dilke, Sir Charles Cooper, and others, to the number of twenty-one, went down to the Star and Garter Hotel, at Richmond, to a dinner, and there were photographed. Of this number only Sir Charles Cooper, Mr. W. Paul, Mr. W. Bull, Dr. Masters, Mr. Harry J. Veitch, and Mr. R. Dean now remain.

"In 1867 commenced the exhibitions of the Royal Horticultural Society in the provinces, and I had the honour to take part in all of them, as steward or as judge. In 1869 I went to Ireland, and visited the principal gardens of interest for "The Irish Gardener." Again, in 1870, I went to Ireland, in the capacity as judge at the Dublin Horticultural Society's Show, held at Ballsbridge, and while there delivered a lecture on spring flowers, standing where Daniel O'Connell had stood, in the Rotunda, at Dublin. In the '70's it fell to my lot to be co-editor of 'The Gardener'—a Scottish publication—with the late Mr. William Thomson. At a dinner held after a show in Birmingham about this time, I came into personal contact with Mr. Joseph Chamberlain (then Mayor of Birmingham) by assisting

him in arranging the places for the guests at table. With the Rev. W. Rogers I carried out a number of flower shows held at Finsbury Park and Richmond between the years 1873 and 1876, and it was my privilege to come into contact with the Duchess of Teck and other distinguished personages. In 1879 I assisted the Fruiterers' Company at the Guildhall, on which occasion every passage was used for the great exhibition of fruit that was sent in. This exhibition gave an enormous impetus to fruit culture in this country.

"Two Hailstorm Funds were formed, the one in 1876, the other in 1879, to meet the damage caused by storms in these respective years. The size of the hailstones in the storm of 1876 were enormous, and did tremendous damage to the glass houses of nurserymen and others in the North of London. With the late Mr. John Fraser and Mr. James Sweet and others we raised £800 (Mr. Dean as secretary) which was distributed amongst the nurserymen. In 1879 another storm passed over London, and on this occasion, at my little place in Ealing, 500 panes of glass were broken; but, strangely enough, at the great vinery in Gunnersbury Park, only a short distance away, not a single pane was broken. With Mr. John Woodbridge, of Syon, and Mr. James Hudson, of Gunnersbury, I visited the houses on this occasion, and we spent several days estimating the damage, £700 being distributed as the result. Of the Postal Reform Union I was secretary, Mr. Sutton, father of Mr. Herbert Sutton, being chairman. From the work of the Reform Union the samples post was brought about, and finally the parcels post, which has become such a very great boon to this country. Then, in 1890, I became secretary of the National Chrysanthemum Society, on the death of Mr. William Holmes, a position to which I was again elected last night (February 3). I superintended a series of flower shows held at Earls Court in 1892 and 1893, and was engaged in some exhibitions, and as horticultural instructor, at the People's Palace, in East London, where my associations brought me again into contact with Royalty, the Duke and Duchess of York, more prominently. What I have done since," continued Mr. Dean, "you are all acquainted with. I need not dwell upon it. I can look back on fifty years of honest work in connection with horticulture. If there are any flower shows in the next world, believe me, I will have something to do with them. Among plants I can claim to have improved (together with my brother Alick) *Primula Sieboldi*. We were the first to get a break with this; we also took *Violas* in hand, and have done something to improve the Potato. Now, gentlemen, you have got a brief sketch of my doings during fifty years. I have attempted to play the game of life fairly and squarely. I have been ill-tempered at times; I have made mistakes—but archbishops have also been known to make mistakes. I have put my heart and soul into the work, and have prided myself in it.

"As a man among men I am standing up still,
Though my strength may fail, and my breath;
But my bat is as strong as mine—purpose and will,
Though the bowler against me is Death.
He will bowl me at last, and my wicket will fall,
But I shall leave no record of shame;
Whatever they say of my score and my ball,
They will call me a man who died playing the game."

Echoes from Ireland.

The climate for the past month has been variable, the dawn of February has been cold; in fact, intensely cold would be a truer phrase, although snow has been absent, while in the Midlands, and northwards, snow has fallen considerably. Despite the unpleasantness, it is welcome, as the hardening of the ground at present will ensure a later festive display of bulbous types, owing to the fine friable condition of the soil after a prolonged frost. Within one finds a radiant show. Along some trellis *Bomarea conferta* is unfolding her pendulous blooms, whilst the indispensable *Cinerarias* are showing, and the pink *Malmaisons* are bursting their calyxes in their effort to bloom. The value of retarded bulbs are now appreciated by our horticulturists, Lily of the Valley always welcome in abundance, and *Freesias*. Although our *Roses* look well, one finds it unfortunately not the practice to force *Roses* continually, so that *Roses* are only forced for our floral competitions. *Hyacinths* are making a brilliant show, and when backed with *Salvias*, especially the improved form; whilst the old favourites, *Zonals*, *Primulas*, &c., are indispensable.

The new society of the development of forestry has assumed a permanent shape. Instead of the word arboricultural, the committee, with the consensus of the members of the society, eschewed it, and adopt as their title "The Irish Forestry Society." The adoption was largely carried to meet the views of the "man in the street," who could not comprehend its former title. After the general meeting, Dr. Cooper gave the members a lecture on "Forestry," presumably the inaugural one, he being both the founder and president.

It is with great regret I notice the sudden death of Mrs. Longmuir, wife of the gardener at the Elms, Blackrock, to whom all horticulturists will tender their deepest sympathy.—A. O'N.

Societies.

Beckenham Horticultural.

Before a fairly good meeting, on Friday evening last, Mr. H. Langford, Cedar Lawn, Beckenham, read a practical paper on "Celosias." The culture of these most beautiful plants was given from the seed to the flowering, both for pot work and bedding, and was the means of opening a good discussion, in which most of those present took part. Mr. Langford was the recipient of a hearty vote of thanks for his excellent paper, and in acknowledging the same, expressed his willingness to contribute of his store of knowledge at any time for the benefit of the society.—T. C.

Herefordshire Fruit and Chrysanthemum.

The Earl of Chesterfield presided at the Guildhall, Hereford, on January 29, over the annual meeting of the Herefordshire Fruit and Chrysanthemum Society. His Lordship said he took the greatest interest in fruit growing, because he believed there was a great future before it, especially with regard to Apple culture. He did not think the farmers of the country had wakened up to the possibilities in this direction. He knew there were difficulties in the way of planting Apple trees, because tenants were migratory, but he thought if landlords and tenants approached each other arrangements might be made whereby these difficulties could be met. Mr. A. W. Foster, of Brockhampton Court, was elected president of the society for the ensuing year, and the Mayor of Hereford vice-president. Mr. T. Carver was appointed chairman of the committee, and Mr. R. H. Whiting vice-chairman.

Chiswick Gardeners.

A very good attendance of members assembled on January 23 to hear Mr. A. Osborn, of the Royal Gardens, Kew, read a very interesting and instructive paper on "Ferns, their General Cultivation, and Little-known Species worth Cultivating." The paper was well thought out, and based on thorough practical experience, and traced the Ferns from remote geological times, also the introduction of the exotic species by Tradescant from Virginia, in 1628, to those now in general cultivation. Suitable soils were noted and special attention drawn to the fact that experience now shows that more light, less heat, with proper ventilation, suit this class of plants better than the closer, darker, conditions prevalent a few decades since, when the subject was not so well understood. Methods of reproduction noticed were by spores, division of rootstocks, rhizomes, and by bulbils; and it was recommended that spores should be started so soon as they were dry after being gathered, for keeping generally proves unsatisfactory. As regards subsequent germination, after mentioning many interesting species worth cultivating, a discussion was opened by Mr. M. T. Dawe, who divided his remarks into two heads: 1, botanical, and 2, horticultural; and spoke for some length on both, and gave interesting experiences in regard to cultivation. Messrs. Mallinson, Sillitoe, Ball, and Spruce also spoke. Mr. T. Humphreys, Assistant-Superintendent of R.H.S. Gardens, occupied the chair. At the close, very hearty votes of thanks were unanimously accorded the reader of the paper and the opener of the discussion.—C. H. BUCK, Hon. Secretary.

Bristol and District Gardeners.

The usual meeting of the association was held at St. John's Rooms on Thursday last, when Mr. Garnish, of Stapleton, read a paper on "Tuberoses," Mr. A. J. Hancock presiding over a good attendance. The subject was well ventilated, and Mr. Garnish gave many useful hints as to the cultivation of this favourite flower, remarking that it was not grown as much as it deserves to be, they being almost indispensable in floral work of all kinds. The best method of potting, the most suitable compost, and the after treatment he carefully described, and anyone following Mr. Garnish's directions need not be afraid of failure. He recommended putting three bulbs to a 6in or one to a 5in pot, and potting as soon as the bulbs arrive, and at different periods, in order to have a succession of blooms, plunging the pots in gentle bottom heat until started, the best variety being the Double Pearl, which arrives during the latter part of the year. Regular syringing with clean water was advised to keep down red spider and thrip, which at times was somewhat troublesome. His paper, which was an exhaustive one, was much appreciated, and he was accorded the hearty thanks of the meeting for his effort. The prizes for the evening, which were for two pots of Lily of the Valley, were well competed for, the first being kindly given by Mr. V. Batten, grocer, Westbury Park, was won by Mr. G. Price, the second going to Mrs. Charles Fuller (gardener, Mr. Beazer), and Alderman W. Howell Davis, J.P. (gardener, Mr. Curtis), obtaining third. Certificates of Merit were awarded to Mr. Jennings for two *Cypripediums*, to Mr. N. N. Dobson (gardener, Mr. Thoda), for a pot of *Freesias*.

Mrs. A. Hall (gardener, Mr. Ware), obtained one for *Odontoglossum pulchellum*. Mr. Garnish gained one for three pots cut Tulips; and one was awarded to Lady Cave (gardener, Mr. Poole), for a curious fungus growth. The next paper will be an interesting one, by Mr. A. Moore-Sara, Stoke Bishop, on "The Rosaceæ."

Royal Caledonian Horticultural.

Report of the Council for the Year 1901.

Acceding to the request of the Council, conveyed through the President, His Majesty the King has been pleased to grant his patronage to the society: This mark of Royal favour has been held by the society continuously since 1820. In the week immediately preceding the spring show, reports of exceedingly hard frost—in some cases running up to 20deg—were coming in from intending exhibitors. Had this severe weather continued into the next week, the spring show must have been a failure, but fortunately the frost gave out on the second last day of March, four days before the show. The total entries were 500, compared with 519 in 1900, but the exhibits were more fully staged than in the previous year. Exhibitors appear to have realised that the very severe weather of the preceding week might have a prejudicial effect on the show, and all did their best to prevent any shortcoming. The result was that the spring show was quite equal to any held by the society in preceding years. The exhibit of Messrs. R. B. Laird and Sons, Limited, which occupied the whole of the circular end of the Waverley Market, was one of outstanding merit, there probably never having been a similar exhibit of equal merit set up in Edinburgh. For this exhibit the Council unanimously awarded a gold medal.

The total entries for 1900 Autumn Show were 2,161, and for the same show in 1901, 2,181. One hundred and twenty exhibitors who had exhibited at the autumn show of the former year dropped out, and 124 new exhibitors entered. The Council view with satisfaction the fact of so many new exhibitors coming forward. Compared with the entries for 1900, the fruit sections showed a slight decrease in number, but a considerable improvement in quality, particularly in hardy fruits. Classes for plants, cut flowers, vegetables, and amateurs showed an increase in entries. Those for vegetables showed an increase of forty-five, and those for amateurs an increase of eighty-five. In this latter section the entries were more than doubled. The competition over all was good—in many cases very keen. The trade was well represented by exhibits of great diversity. These exhibits bring before the patrons of the show something to meet the tastes of all, and do much to enhance the general effect and value of the exhibitions. The Council has the satisfaction of again recording that there has been no falling off in the general excellence of the exhibitions.

During the month of March the Council issued a large number of circulars inviting the recipients to support the society by becoming members, and as the immediate result of this, eight new members, subscribing £1 1s., and thirty-five new members, subscribing 10s. 6d., were enrolled; also four new members on the 10s. 6d. scale commuting by one payment of £5 5s. Along with each circular a complimentary ticket was issued. Whether on account of the time of year, or on account of the very severe weather immediately preceding the spring show, cannot be determined, but the fact is that a very small proportion of these complimentary tickets were used. The general attendance at the show fell very considerably, and the Council, after anxious deliberation, and after consulting a large number of principal exhibitors as to the effect which an alteration of the date would have upon the show, resolved that, in 1902, the spring show should be held on May 7 and 8. The Council trust that this change of date will be acceptable to the members at large. The society has lost twenty-five members by death and resignation during the past year, and sixty-five new members, exclusive of gardener members mentioned below, have been enrolled.

The change of bye-laws effected at last annual meeting, by which gardeners, nursery or horticultural employes might be admitted members of the society on payment of 5s. annually, has resulted in thirty-eight members being enrolled in this class. During the year the Council awarded a First Class Certificate to Carnation Sir R. Waldie Griffith, exhibited by Laing and Mather, nurserymen, Kelso; and an Award of Merit to white Carnation Gala Day, exhibited by Charles Freeland, Larkhall.

The autumn show was formally opened by the Earl of Rosebery. The attendance on that occasion was very large, and the Council have pleasure in recording that the total drawings exceeded the drawings at any previous show in the society's history, if the International Shows and the Diamond Jubilee Show of 1897 be left out of account. Having in mind the gradual dropping of the attendance at the society's shows for a few years past, the Council view the large increased attendance at the last autumn show with much pleasure, and they trust that the good effect of the service which Lord Rosebery rendered the society on that occasion will continue, and that the attendance of the public will now tend upwards. The funds, for the year ending November 30, 1901, stand at £557 0s. 9d.

Hanley Horticultural Fête.

The statement of accounts for 1901, to hand, shows the substantial balance in hand of £2,287 14s. 6d., as against £1,675 9s. 4d. last year. The total expenditure was £2,108 8s. 11d., compared with £1,956 16s. 6d. in 1900, but the income was also larger, being £2,720 14s. 1d., as against £2,661 0s. 1d. the year before. From these great totals it will be seen that the organisers of the Hanley Horticultural Fête have had great success following their adventures. The advance sheets of the schedule of prizes for the coming July show, again prove that ample inducement is offered to the plantsmen, for in class 1, for a group of plants, the first prize is £25, and special prize of five guineas; second prize, £20, and special of two guineas; third prize, £15; and fourth of £10. The prizes throughout are all large. Special cash prizes are offered by Messrs. Sutton and Sons, Webb and Sons, W. A. Leighton, Carter and Co., Henry Eckford, Robert Sydenham, and others. The secretary is Mr. J. Kent, Superintendent of Hanley Public Park.

Cardiff Gardeners'.

On Tuesday, February 4, Mr. A. Brown, Roath Botanic Gardens, gave an interesting paper on "Aquatic Plants, and Old-Fashioned Sweet Scented Flowers."

Many popular varieties were mentioned as suitable for most situations, and several sub-aquatic plants were mentioned as suitable for growing on banks of lakes and ponds. The old-fashioned sweet scented flowers were subjects for a good discussion defining their good and useful qualities, regrettable as the case may be, that so many kinds are so scarce, owing chiefly to the fact that some years ago many were nearly discarded altogether, to make room for novelties. The best thanks of the association was accorded Mr. Brown for his able paper. On Tuesday, February 18, Mr. J. J. Graham will lecture on "Some Useful Plants for Winter Flowering."

United Horticultural Benefit and Provident.

The monthly meeting of this society was held on Monday evening last, at the Caledonian Hotel, Mr. C. H. Curtis in the chair. Twelve new members were elected. A member having allowed his contributions to fall over twelve months in arrear, wished to be reinstated, but the committee decided that Rule 14 be adhered to; they however re-elected him as a new member. The death of Mr. James Clarke, of Taunton, was reported, and a cheque for £61 18s. 2d. was drawn in favour of the widow, that being the amount standing to the late member's credit in the ledger. A member having received his full amount of sick pay was granted 5s. per week from the Benevolent Fund. Application was made for the amount standing to the credit of deceased lapsed member, but there being a slight difference in the name, the secretary was asked to inquire into the case. Ten members were reported on the sick fund, the amount paid out for the month being £18 2s. The treasurer reported a balance in hand of £743 16s. 1d., and was empowered to invest £650 in the best available trustee stock. The annual meeting will take place at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday, March 10, at 8 p.m.

Dulwich Chrysanthemum.

The eighth annual meeting of the Dulwich Chrysanthemum Society was held on Tuesday, February 4, and was signalled by a record attendance of the members. The balance-sheet shows a balance in hand of £40 19s.—in spite of nearly £9 extra having been expended in prize money. The receipts from all sources increased by £25 during the year, while the expenditure was not quite £11 more than in 1900. When it is remembered that the Premier Society has lost about £40 on the year's working, and many local societies have had a disappointing year, it is clear that the Dulwich Chrysanthemum Society receives a large and increasing amount of support, and great credit is due to the whole of the executive for its prosperous condition. The members are evidently well satisfied with the officers, for they re-elected the whole of them for the ensuing year, and out of eleven eligible members of the old committee nine were again chosen. A large measure of commendation was bestowed on the hon. secretary (Mr. Young), and the Gold Medal of the Society was unanimously voted to him as an acknowledgment of his services.

The report of the committee was naturally of a congratulatory nature, and recorded a membership of 153. Especial mention was made of the increased interest taken in the society by C. Bayer, Esq., of Forest Hill, and of the many kind services rendered by Percy Waterer, Esq., of Fawkham. The proceedings closed with a vote of thanks to the chairman, Mr. W. Taylor. The society intend to hold a three days show instead of a two days one as heretofore, the dates fixed being November 11, 12, and 13. As the membership is still rapidly increasing, thirty-two new members having been elected last year, and seven already this year, there is every reason to expect a continuance of the present favourable condition of the society.—C. A. Y.

Scottish Natural History.

An ordinary meeting of the society was held on the evening of the 6th inst. in the society's rooms, 5, Queen Street, Dr. John Macmillan, F.R.S.E., vice-president, in the chair. A lecture was delivered on "The Flora of Arthur's Seat," by Mr. John MacRae, M.A., in which he endeavoured to relate the plants found with the conditions determining plant life there. He pointed out that meteorologically the conditions on Arthur's Seat tended to a small rainfall and a high average temperature, while geologically there was a porous soil, fairly rich in mineral salts, with a steep slope and no springs even on the lower reaches, thus rendering the retention of moisture difficult, and making the plant associations of other moister hills impossible. He then went on to compare the flora of Arthur's Seat generally with that of Blackford Hill and the Castle Rock, showing in each case wholly different plant associations; and illustrated the different localities with limelight views. After giving an account of the various methods by which plants combated these adverse conditions, reducing the leaf surface, "sleeping" at night, storing water, and reducing transpiration by a hairy development, he gave a list of over 100 plants found on the south side of the hill, which illustrated in various ways xerophilic tendencies. At the conclusion Mr. MacRae was awarded the cordial thanks of the society for his lecture.

Horticultural Club (Annual Meeting).

In the club rooms, the Hotel Windsor, Westminster, at five o'clock p.m., on Tuesday last, a number of members met at the annual general meeting. Sir John Llewlyn, Bart., president, occupied the chair, and the following business was transacted:—A telegram was sent to Rev. H. H. D'Ombrian, sympathising with him in his inability to be with the meeting assembled. The balance-sheet, showing £53 5s. 3½d. in hand of the year's income, as against £42 18s. before, together with £450 11s. 9d. as the amount standing in Consols, was unanimously agreed to. The personal resignation of Rev. H. H. D'Ombrian as secretary (at the last committee meeting) was laid before the meeting we here report, and was accepted. It was agreed that Mr. D'Ombrian receive a pension equivalent to the salary he has hitherto received as secretary, and that he be elected an honorary member. Mr. D'Ombrian, we may add, is growing very feeble. It was next decided that Mr. E. T. Cook, co-Editor of "The Garden," be elected honorary secretary, his official duties dating from July 1 next. Mr. D'Ombrian having acted also as treasurer in the past, and Mr. Cook not wishing to include this office, it was proposed that Mr. Harry J. Veitch be elected, a post he accepted pro tem. The same trustees stand as hitherto. A matter in regard to printing essays, read before the club, in the Journal of the R.H.S., was left in the hands of the editor of that publication, viz., Rev. W. Wilks, M.A. It may be noted that at present there are sixty-four members of the Horticultural Club. Mr. J. D. Pearson, of Lowdham, Notts, moved, in a very effective speech, ably seconded by Rev. W. Wilks, that the annual subscription be altered to one guinea, in preference to the two guineas paid hitherto. After considerable discussion, it was put to the meeting, ten voting for the proposition, and only four against. One guinea will thus be the annual fee. Amongst those present were Sir John Llewlyn, Dr. Masters, Rev. W. Wilks and Messrs. H. J. Veitch, G. Bunyard, C. T. Druery, H. B. May, — Ker (Liverpool), J. H. Pemberton, — Rivers, Amos Perry, G. Paul, and Jefferies.

The Metropolitan Public Gardens Association.

Open Spaces:—At the monthly meeting of the Metropolitan Public Gardens Association, held on February 6, 1902, at 83, Lancaster Gate, W., Sir William Vincent, Bart., vice-chairman, presiding, it was agreed, in response to an offer made by Mr. T. Wilson, to arrange for a lecture to be given in London during the Easter holidays on "Town Forestry." Several complaints were received as to the unskilful and unnecessary lopping and pruning of trees on the part of some of the metropolitan and suburban local authorities, which caused serious injury to the trees and spoilt their appearance, and it was decided to again draw the attention of the Borough and District Councils to this matter. Several Bills affecting open spaces were under consideration, including the Charing Cross, Euston, and Hampstead, and the Edgware and Hampstead Railway Bills, which propose to make double sets of tunnels under Hampstead Heath, and the Earl of Dysart's Bill to extinguish common rights over some 180 acres, forming Ham Common Fields, and to dedicate a riverside strip between Richmond and the Kingston boundary, and certain other lands, to the public. Some amendments in the public interest were suggested and approved. Progress was reported with regard to the laying-out of Avondale Square, the planting of trees in Norfolk Square Churchyard, and respecting the schemes promoted by the association for securing and laying out churchyards in Poplar, Camberwell, and Clapham. Applications for gymnastic apparatus for a boys' club in Whitechapel, and for seats for a recreation ground at Bowes were granted, and it was decided to draw the attention of the respective Borough Councils

to desirable vacant sites in Islington, North Fulham, and Denmark Hill, which the association would be prepared to lay out if they were required for public use.

Irish Gardeners' Association.

At the last meeting at Grafton Street, Dublin, the proceedings were opened by the president, Mr. F. W. Burbidge, who delivered an address on "Gardeners and Employers." After Mr. F. W. Burbidge's paper, Mr. J. Simpson dealt with the value of "nitrate in the garden" as a manurial agent, the lecture being illustrated by limelight views. The slides were principally projected to show the comparative value of nitrate (especially in the form of nitrate of soda) when used judiciously with farm-yard manure. The basis of his paper was founded on the experimental trials of the "Permanent Nitrate Company." The subject was treated in a masterly manner, evincing a thorough mastery of the facts of manuring, especially when artificials were requisitioned, and pointed in a clear way that the best results accrue to a minimum instead of a maximum quantity being applied. After the usual votes were approved of, the chairman announced that Mr. O'Neill would lecture at their next meeting on "Insectivorous Plants," illustrated by a series of lantern views.



AN IMPROVED EPERGNE FOR FLORAL DECORATIONS.

An Improved Epergne.

On page 93, January 23, we referred to a new epergne, designed by Mr. J. Williams, of 4A, Oxford Road, Ealing, W., to facilitate lightness of floral decorations when these are employed on dinner tables. On page 112 we are able to show this epergne as it appears. It stands 25in high, the centre stem being left clear from decoration, so that there is no obstruction across the table. The flower holders are at the base and at the top. One readily sees the practicability and merits of an epergne of this nature.



Fruit Forcing.

PEACHES AND NECTARINES: EARLIEST HOUSE.—

Attention must be given to regulating and tying the growths. Where the shoots reserved at the base of the present bearing wood are sufficiently advanced they should be laid in—that is, tied down—so as to give them the desired inclination, taking care not to bring them too sharply towards the branches, nor endeavour to tie them until they are sufficiently grown to allow of the operation being performed without snapping off the points. The terminal growths of leading branches should be trained in their full length, pinching the laterals to one leaf as produced. Growth for furnishing branches also require to be trained in without stopping, tying and regulating them as they advance, in doing which leave plenty of room for the shoots swelling. In laying-in young shoots from extensions avoid overcrowding, allowing a distance of 12in to 15in between them along the branches and about 6in between the shoots, so that the foliage will receive plenty of light and air. Those shoots retained to attract the sap to the fruit must be kept closely pinched to one leaf after they have previously been stopped at the third joint or the one with a good leaf. Make an examination of the border every fortnight or three weeks, and supply water or liquid manure to weakly trees in a tepid state, thoroughly, whenever required. This is better than having stated periods of watering, for needless supplies of water or liquid manure only tend to make the soil sodden and sour, and neglect of affording moisture at the roots retards growth, besides favouring attacks of red spider. This pest must be kept under by syringing the trees in the morning and afternoon. If this fails to subdue insect pests, or if aphides appear, syringe with a decoction of quassia chips, 4oz, boiled ten minutes in a gallon of water in which the chips have been steeped overnight, dissolving 4oz of softsoap in it as it cools, straining and diluting with hot water to 4 gallons, using when cooled to 90deg to 100deg. Should the growths be attacked by brown aphids, use the mixture at full strength, applying with a brush to the affected parts. In ten to fifteen minutes afterwards syringe the whole of the trees with the decoction of quassia chips and softsoap solution diluted to 4 gallons. Repeat as necessary for keeping the trees free from aphides, red spider, and thrips. It also has a deterrent effect upon brown scale, preventing the young getting fixed on the tender growths. The temperature should be maintained at 60deg to 65deg by artificial means, a fall to 55deg on cold mornings being much better for the trees than sharp firing, which only induces attenuated growths and favours insects.

JULY AND AUGUST CROPS.—The trees for this purpose should be started early in March. Those previously forced will start naturally at the usual time, so that there is no need to close the house to accelerate the swelling of the buds; in fact, they are, if anything, too forward, and will require air fully day and night, except when frost prevails, to prevent their being brought on too rapidly. Nothing, however, is gained by striving to retard the trees at the blossoming stage, but everything may be lost as regards a crop by failing to accord the conditions essential to a good crop of fruit. The trees may be syringed every day twice until the blossom buds show colour, when it is better to cease sprinkling them, as the anthers soon appear, and they require a moderate degree of moisture only for their proper development. A temperature of 50deg by day, advancing to 65deg with abundant ventilation, and 40deg to 45deg at night, will be all that is needed to insure a good set of fruit, provided enough air is given to prevent the atmosphere becoming stagnant. Examine the border, and if dry afford a thorough supply of water. If there be a plentiful show of blossom remove those on the under side or at the back of the trellis by drawing the hand the reverse way of the growth.—ST. ALBANS.

The Kitchen Garden

BROAD BEANS.—A few rows usually suffice in most gardens. Any of the Longpod varieties are suitable for sowing now. They are hardy and early. Good, rich, moist ground will suit them, drawing drills 9in wide so as to hold a double row of seed, these being placed 4in apart. The rows may be 2ft apart.

SPINACH.—The space between rows of Peas, especially tall varieties, may be profitably utilised by sowing Round or Summer Spinach as one crop. One, or at most two, rows are usually sufficient for one sowing. Draw shallow, wide drills, scattering the seed fairly thickly, and cover with fine soil. The plants may be thinned out for use as they become large enough.

TOMATOES.—Early plants in various stages in heat will need considerable attention in pricking out, potting, repotting, staking. They must have a warm position and near the glass. On warm, bright, sunny days water will be needed more frequently. Well-established plants in 4in or 5in pots may be planted out on hillocks of soil or in a shallow border raised near the glass. An early crop may also be grown in 8in or 9in pots. They are portable, and convenient for removal when needed. A sowing of seed may be made now, and plants obtained for a successional supply. Sow in pots of sandy soil, and place in a temperature of 65deg. On the seedlings appearing a position near the glass must be afforded to prevent drawing and weakening. In transplanting Tomato seedlings for the first time it is important to sink the stems to the level of the seed leaf. Roots are thus emitted into the soil, and the whole plant strengthened considerably.

CABBAGE.—The spring Cabbage will be greatly benefited by hoeing between the rows. If the soil is much covered with annual weeds it will be more convenient to fork or dig between the rows and bury these. A light sprinkling of nitrate of soda round the plants proves helpful in accelerating growth.—LYMINGTON, HANTS.

An Observer's Notes.

Under this heading there are many short interesting notes our readers might send.

FEBRUARY 14-20.

PLANTS DEDICATED TO EACH DAY.

Fri. 14	Yellowhammer sings.	Crocus, Cloth of Gold.
Sat. 15	Small bloody-nose beetle seen.	Double Pink Primrose.
Sun. 16	Dandelion flowers.	Susian Crocus.
Mon. 17	Jackdaws build.	Wall Speedwell.
Tu. 18	Spring Crocuses in flower.	Field Speedwell.
Wed. 19	Greenfinch sings.	Venus's Navel-wort.
Thrs. 20	Blackbirds mating.	White Crocus.

The ruddy crimson flowered Parrotia furnishes a rich effect on the sward near the principal entrance gate at Kew Gardens just now. It is almost at its best.—R.

There are some excellent Raspberries growing in a garden belonging to Mr. R. Thomas, J.P., Cardigan House, at Cricketh, Carnarvonshire. A visitor from Chester, the other day, remarked that he had seen a Fuchsia in full bloom in a garden near the Marine.

During the severe weather of the past fortnight large crowds of sea-gulls have taken shelter along the Thames, and have been most numerous about London Bridge and by the Thames Embankment Gardens. At the luncheon hour numbers of boys and men take to feeding the hungry birds, which are so fearless that they will swoop down and lift the morsels of bread almost out of the feeders' hands. Circling and encircling, they tumble over one another, so dense are they packed in the air; and with brown-tipped, silvery wings and black eyes, they afford one of the most interesting sights to be seen on the Thames at London at the present time.—D.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1902.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
Sunday ...2	E.N.E.	deg. 32.3	deg. 31.5	deg. 34.9	deg. 31.2	Ins. 0.01	deg. 35.8	deg. 40.0	deg. 44.0	deg. 24.4
Monday ...3	E.N.E.	32.7	32.0	35.5	32.0	0.06	35.5	39.7	43.9	29.3
Tuesday ...4	N.E.	35.3	34.0	35.8	32.5	—	35.5	39.5	43.6	31.5
Wednesday 5	E.N.E.	33.0	32.0	36.2	32.5	—	35.7	39.3	43.5	30.0
Thursday 6	E.N.E.	34.8	33.2	33.6	33.0	—	35.9	39.2	43.3	31.0
Friday ...7	N.E.	32.0	30.5	39.1	31.6	0.03	36.4	39.3	43.1	27.5
Saturday 8	S.E.	34.5	33.9	37.3	20.5	0.05	36.1	39.3	43.0	23.1
MEANS ...		33.5	32.4	36.8	31.9	Total. 0.15	35.8	39.5	43.5	28.1

Dull cold weather has prevailed during the past week, with strong wind, slight rains, and snow at intervals.



* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

REPORT OF WOOLTON GARDENERS' SOCIETY (J. S.).—Matter is so heavy on our hands that we cannot hope to insert your long and interesting report for yet awhile. A great deal of matter, good in itself, is unavoidably crowded out each week.

BOOKS ON CACTI (John Williams).—The book on Cacti that we used to publish has long been out of print, and is only to be had secondhand. Apply at once to Mr. J. Wheldon, bookseller, Great Queen Street, London, W.C. He has one in stock, price 1s., we believe.

COST OF LOOKING AFTER A BOWLING GREEN (W. I.).—Taking one week with another, two days would be required to mow the grass with machine, roll the green, and keep the walk and border in order. Some margin, however, should be allowed for unfavourable conditions of weather, therefore we should say that 10s. per week would be a fair rate by contract for attending to the work pointed out in your letter.

GRAFTING APPLE TREE (T. G.).—The best way is to "head," or cut back, the tree, to nearly the point where the grafting is to be effected whilst it is quite dormant, or now, leaving three to five of the best limbs about a foot from their starting point on the stem for forming the head, and when the sap is well up cut each branch a little shorter, and place two grafts in each by what is known as crown grafting, the scions or grafts having been cut and kept on the north side of a wall or fence, inserted in soil so as to keep them quite dormant. It is not advisable to graft some Pear scions on it, but confine the grafting to Apple of the approved variety.

PLANTING MALE AND FEMALE PLANTS OF AUCUBAS TO SECURE BERRYING (J. G.).—It is not necessary when planting Aucubas for the male and female to touch each other to make the latter berry; we having under observation several female plants at a distance of a few feet to over a hundred yards from two male plants, and these suffice for fertilising the flowers of female plants at the several distances; indeed, some plants at the greater distance are the best berried, and this not in one season, but in a succession of years. We notice that the male plants are the ordinary green form of *Aucuba japonica*, and the female plants the spotted form known as *Aucuba maculata*. They flower simultaneously, the males slightly in advance of the females, and that fertilisation is most pronounced on the side opposite that from which the wind happens to blow. Probably non-fertilisation in your case is a result of the male plants flowering in advance of the female plants, in which case it is necessary to collect the pollen when ripe and keep it in clean paper, quite dry, until the female plants are in full bloom, then dust the pollen on the flowers by means of a camel-hair brush. This is rather a tedious process, but usually very effective. Frost sometimes occurs and destroys the flowers, when, of course, fertilisation cannot take place.

ARRANGING STAGING IN HOUSES (Ignoramus).—As the houses are only 10ft 7½in wide internally, and you propose to brick or board up the hot-water pipes at the front of the structure, thus forming pits 2ft 3in wide over all (to the level with the woodwork of the doors at end of partitions), there will remain 8ft 4½in width for apportioning between pathway and staging. Setting apart 3ft 1½in, or the width of the doors and frames, for a pathway, there remains 5ft 3in available for staging. We should utilise the 2ft 3in width of present front stage next the path, and being 2ft 6in high will be on a level with sill in front of house. Above this we should have a 3ft width of staging, and 1ft higher than the 2ft 3in width, thus forming a step or tier stage, and with the lower-growing plants on the lowest stage and tallest growing on the upper one, watering could be effected with facility from the pathway in front, the back part being easily reached by removing a few plants at intervals on the lower stage. This would give you the greatest utilisation of the space. Of course, the pit in front must not enclose the four rows of 4in hot-water pipes in the two compartments next the boiler or two rows in the other compartment, for these will be required to maintain the heat in the houses at the proper temperatures. We should therefore keep the present staging in front and provide new for the back part, growing the Cucumbers and Melons in boxes and the Tomatoes in pots.

FLOWERS OF CYPRIPEDIUMS.—"Cypripedium No. 1. I believe to be *C. x Cythera*, a hybrid between *C. Spicerianum* and *C. purpuratum*, originally described in 1890 (*G. C. vii.*, page 73). It has all the characters. No. 2 is *C. x Leanum* var., not quite identical with any variety that I remember. It is not quite good in form, but has the petals spotted almost throughout, and the spots on the dorsal sepal small, numerous. Have they any value? I should keep them. No. 2 should improve, and the other is pretty enough. Of course, mercantile value is difficult to estimate.—R. A. ROLFE."

BEARING OF APPLE TREES (P. W.).—"I wish to know how soon I could get fruit from Apple trees if I planted the following varieties—Cox's Orange, Lord Suffield, Bismarck, Lane's Prince Albert, Lord Grosvenor, Newton Wonder, Worcester Pearmain, and Irish Peach—next October, putting in two-year-old plants. How soon would it be safe to let them bear one bushel of fruit each? Also, supposing I planted Lord Suffield alternately with other kinds, with the intention of getting fruit from them as soon as possible, and grubbing up the Lord Suffields when worn out or the others had come into bearing, how much fruit might I expect from the Lord Suffields the first year and how much the second? Is there any other variety which will come quicker into bearing and profitable for growing for market?"

[If you plant two-years-old trees from the bud or graft next October they would give some fruit, if furnished with fruit buds, the following year (1903); but this is not advisable, even if blossom buds are present, for, owing to the removal, they will need all their energies for re-establishment, which is of more importance than fruit production in the early years of the trees. They would, however, bear a little without prejudice in 1904, and increase in early growth and production. It will not however, be until the seventh year that the trees will be in profitable production, when they may produce from a peck to a bushel of fruit per tree, it not being possible to give any precise data, as so much depends upon soil, situation, season, and variety. The lower rate of production is the safest. Not until the fifteenth year would the trees be capable of producing a bushel of fruit each, they being bushes and planted 12ft apart, and this amounts to 7½ tons per acre, quite as much as the trees will average, one year with another. As regards planting Lord Suffield alternately with other varieties with the intention of removing them, then the produce in the first year would be nil and in the second year no great amount, for it is not until the fifth year that profitable production is reached, even in the early bearing varieties, and a peck of fruit per tree is the maximum that could be expected from them. We should prefer White Transparent to Lord Suffield for early bearing and compact growth, and instead of Irish Peach have Lady Sudeley.]

FLOWERING MALMAISON CARNATIONS IN FEBRUARY (R. W. D.).—"I would be much obliged if you would be so very kind as to let me know how to flower Malmaison Carnations at this time of year. Hitherto I have thought this impossible in a general way, though I have had occasional blooms in midwinter, but this I attributed to the bud having partly formed before the layering was done. My employer, who is an enthusiastic gardener, paid me a high compliment lately by remarking that our small collection of one hundred Malmaisons was absolutely the strongest and healthiest looking he has seen this year, and I know that includes some very extensive ones; but he also said he saw one collection just beginning to flower, and wondered if I could not flower our own. I frankly admitted I could not. Is it really the fact that some gardeners can do this, and, if so, how is it done?"

[Souvenir de Malmaison Carnation and its many sub-varieties do not usually flower well at the early part of the year, and when doing so it is commonly on plants that are struck as cuttings in July in gentle heat, or layers of old plants at that time in a frame. When well rooted the cuttings, or layers, are potted off, the smaller into 3in and the larger into 4in pots. In these the plants are wintered in an airy position near the glass. The second season the plants are grown on, and not allowed to bloom through the summer, giving about two shifts until they are in the size of pot desired—10in being the maximum—feeding with liquid manure being attended to after the pots are filled with roots. About the middle of September the plants are taken indoors, giving plenty of air for some days. By maintaining a temperature of from 45deg to 50deg some fair blooms may be had in winter and early spring months; but to insure well-developed flowers a temperature of 50deg to 55deg, with a free circulation of air on all favourable occasions, is all-important. Another plan is to put in cuttings about the middle of February, striking them in a bottom heat of 70deg to 75deg, potting off as soon as rooted, gradually hardened so as to bear removal to a house with a greenhouse temperature, where they remain until April. They may then be shifted on, buds for bloom being pinched off. In September the plants are housed and air freely admitted, affording a temperature of 50deg to 55deg in order to have bloom in winter and early spring months. We, however, strongly advise adherence to the practice you have found successful, the very early blooming not, in our experience, being generally satisfactory.]

What are the deciduous trees and flowering shrubs which will grow most quickly into a dense shrubbery in a damp spot near a ditch?—(A. H.)

[Deciduous trees and flowering shrubs that will grow most quickly into a dense shrubbery in a damp spot near a ditch are: Deciduous trees—*Alnus cordifolia* (cordata), *A. glutinosa foliis aureis*, *A. g. lacinata imperialis*, *Amelanchier canadensis* (Botryapium), *Betula alba*, *B. a. lacinata pendula*, *B. a. pendula* (young), *B. a. purpurea*, *Cerasus Padus* (Bird Cherry), *C. P. cornuta*, *Fraxinus Ornus*, *Platanus orientalis acerifolia*, *Populus alba argentea*, *P. a. Bolleana*, *P. fastigiata* (Lombardy), *P. monilifera canadensis aurea*, *P. m. c. nova*, *Prunus Pissardi*, *P. spinosa flore-pleno*, *Pyrus Aria*, *P. A. chrysophylla*, *P. aucuparia*, *Salix alba*, and *Ulmus glabra vegeta* (Huntingdon Elm). Deciduous shrubs—*Cornus mas. elegantissima aurea*, *C. sanguinea*, *C. s. variegata*, *Corylus Avellana purpurea*, *Deutzia scabra*, *D. s. flore-pleno*, *Forsythia suspensa*, *F. viridissima*, *Philadelphus coronarius*, *P. Gordonianus*, *Ribes sanguineum*, *R. s. album*, *R. s. atro-rubens*, *Sambucus nigra aurea*, *S. racemosa*, *S. r. foliis aureis*, *Spiraea arifolia*, *S. bella*, *S. callosa atro-sanguinea*, *S. salicifolia*, *S. s. paniculata alba*, *Syringa vulgaris*, *S. v. alba*, *S. v. grandiflora*, *Viburnum Lantana*, *V. Opulus*, *V. O. sterile*, *Weigela amabilis*, and *W. rosea*, with many varieties.]

NAMES OF FRUITS.—*Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number.* (J. W.).—1. Apple Schoolmaster; 2. Brownlee's Russet; 3. Beauty of Kent. (Hy. Ashwell).—1. Pear Glou Morceau.

NAMES OF PLANTS.—*Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number.* (Helen Eard).—*Adonis amuriensis*. (B. L.).—1. *Gomesia planifolia*; 2. *Phalænopsis amabilis*; 3. *Oncidium triumphans*; 4. *Ruellia macrantha*; 5. *Begonia manicata*; 6. *Clerodendron splendens*. (J. B. T.).—1. *Sparmannia africana*; 2. *Acacia linearifolia*; 3. *Erica carnea*. (F.).—1. *Hamamelis arborea*; 2. *Lonicera Standishi*; 3. *Helleborus caucasicus*.

EDITORIAL NOTICE.—Our readers can greatly assist in adding interest to the pages of "The Journal" by their kindly contribution of timely notes and notices, and at the present period of the year there may be photographic examples of well-grown fruit, &c., growing or otherwise, that would be worthy of reproduction. The Editor would be pleased to have such subjects for consideration and probable use. He does not guarantee to pay for prints unless by special agreement.

Trade Notes.

Mr. William Logan, for nearly twenty years with Messrs. Barr and Sons, King Street, Covent Garden, W.C., and lately with Mr. H. J. Jones, Ryecroft, Lewisham, has started in business on his own account at 369, High Road, Chiswick (near Turnham Green). His seed catalogue is being sent out. Bulbs and hardy plants are other features of the new business, in which we sincerely wish Mr. Logan success.

* * *

Messrs. Webb and Sons, Wordsley, Stourbridge, send us their Farm Seed Catalogue for 1902. It is well arranged, and the fastidious inquirer after testimonials will meet with very many on the pages of this publication, and these, we may add, refer to the success attending the use of Messrs. Webb's seeds, and also their special manures. Photographic illustrations of growing crops are numerous and convincing. A page at the front furnishes the photograph of fourteen representatives of the firm. Messrs. Webb wish to draw attention to the fact that their seeds can only be obtained direct from Wordsley.

Kelway's Manual.

Nearly every gardener or gardening amateur is acquainted with that ponderous nursery catalogue (which, however, is much more than a mere catalogue) precisely and curtly called "Kelway's Manual." The issue for the present annum differs in the colour of the cover, to begin with, from last year's, which was crimson with gilt letters; this year's is grey-green, with silvered impression. On comparing the preceding manual with the new one, the same arrangement is naturally found to be maintained, but there is an increase of six pages. A coloured frontispiece illustrates some lovely new tree Pæonies, and a great profusion of splendid half-tone illustrations lend a wealth of interest to the numerous pages. Useful quotations of cultural practices from current gardening literature is freely interspersed. As the Manual has an index, we are of opinion that every gardener would do well to possess a copy, both for enlightenment and help, and also for the pleasure that the perusal of this elaborate compendium will certainly provide. The price is 1s. 6d., post free, from Messrs. Kelway and Son, Langport, Somerset.

Covent Garden Market.—February 12th.

Average Wholesale Prices.—Plants in Pots.

Most of the undermentioned plants are sold in 48 and 32-sized pots.

	s.	d.	s.	d.		s.	d.	s.	d.
Aralias, doz.	5	0	12	0	Ficus elastica, doz. ...	9	0	12	0
Araucaria, doz.	12	0	30	0	Foliage plants, var, each	1	0	5	0
Aspidistra, doz.	18	0	36	0	Grevilleas, 48's, doz. ...	4	0	5	0
Azaleas, white and coloured, doz.	30	0	36	0	Lycopodiums, doz. ...	3	0	0	0
Crotons, doz.	18	0	30	0	Marguerite Daisy, doz.	8	0	10	0
Cyclamen, doz.	9	0	10	0	Myrtles, doz.	6	0	9	0
Cyperus alternifolius per doz.	4	0	5	0	Palms, in var., doz. ...	15	0	30	6
Dracæna, var., doz. ...	12	0	30	0	„ specimens	21	0	63	0
Dracæna, viridis, doz.	9	0	18	0	Pandanus Veitehi, 48's, doz.	24	0	30	0
Erica hyemalis	9	0	10	0	Primulas	3	0	4	0
„ „ alba... ..	10	0	12	0	Shrubs, in pots	4	0	6	0
Ferns, var, doz.	4	0	18	0	Solanums	8	0	10	0
Ferns, small, 100... ..	10	0	16	0	Spiræa japonica, 48's, doz.	10	0	12	0

Average Wholesale Prices.—Cut Flowers

	s. d.	s. d.		s. d.	s. d.
Acacia "mimosa," pad	6	0 to 8	0	Lilium l. rubrum ...	2 0 to 2 6
Anemone, double pink,				,, longiflorum ...	3 0 4 0
per doz.	1 6	0 0		Maidenhair Fern, doz.	
Arums, doz.	4 0	6 0		bnehs.	0 0 8 0
Asparagus, Fern, bneh.	1 0	2 0		Marguerites, white,	
Azalea mollis, per bun.	1 0	0 0		doz. bnehs.	4 0 0 0
Bouvardia, white,				,, yellow, doz. bnehs.	2 0 0 0
doz. bunches... ..	0 0	8 0		Myrtle, English, per	
Bouvardia, coloured,				bun.	0 6 0 0
doz. bunches... ..	0 0	8 0		Narcissus, paper white,	
Camellias, white... ..	2 0	2 6		doz. bunches... ..	0 0 2 6
Carnations, 12 blooms	1 3	1 9		,, Soleil d'Or	0 0 1 6
Cattleyas, doz.	0 0	12 0		,, double Roman ...	1 6 2 0
Croton foliage, bun. ...	0 9	1 0		Odontoglossums	4 0 0 0
Cycas leaves, each ...	0 9	1 6		Orange blossom, bun.	2 0 3 0
Cypripediums, doz. ...	2 0	0 0		Primula, double white,	
Daffodils, single, doz...	5 0	8 0		doz. bunches... ..	6 0 8 0
,, double ,,	4 0	6 0		Roses, Niphetos, white,	
Eucharis, doz.	0 0	3 0		doz.	2 0 3 0
Freeseias, doz. bunches	2 0	3 0		,, pink, doz.	4 0 6 0
Gardenias, doz.	6 0	0 0		,, yellow, doz. (Perles)	2 0 3 0
Geranium, scarlet, doz.				Smilax, buch	3 0 4 0
bnehs.	4 0	6 0		Tuberose, gross	0 0 12 0
Hyacinth, Roman,				Tulips, white, single,	
doz. bunches... ..	7 0	8 0		doz. bun.	9 0 0 0
Ivy leaves, doz. bun. ...	1 6	0 0		,, coloured, doz.	
Lilac, French, white,				bun.	9 0 0 0
per bun.	4 0	4 6		,, scarlet, single,	
Lilium Harrisii	4 0	6 0		doz. bun.	4 0 5 0
,, lanceifolium alb.	2 0	2 6		Violets, single, doz ...	1 6 0 0
Lily of the Valley, 12				,, double, doz.	3 0 4 0
bnehs	6 0	12 0			

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.			
Apples, cooking, bush.	8	0 to 10	0	Grapes, Alicante, lb. ...	2	0 to 2	6	
„ New towns,				„ Colman	2	0	3	0
case	10	0	0	„ Muscat	0	0	5	0
Bananas	8	0	12	„ Almeria	0	6	0	8
Cranberries, 30 to 36 qt.				Oranges, per case ...	10	0	25	0
consignment ...	9	0	10	Pears, French, crate ...	12	0	0	0
Dates, red V., doz. bxs.	5	6	0	Pines, St. Michael's,				
Lemons, Messina, ease	12	0	16	each	2	6	3	6

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	2 0	to 3 0	Mushrooms, forced, lb.	0 6	to 0 8
„ Jerusalem, sieve	1 6	0 0	Mustard & Cress, doz.	1 6	0 0
Batavia, doz.	2 0	0 0	Parsley, doz. bnehs. ...	2 0	3 0
Beans, French, per lb.	2 0	0 0	Potatoes, new French,		
Beet, red, doz.	0 6	0 0	per lb.	0 3½	0 4
Brussels Sprouts, ½ sieve	2 0	3 0	Potatoes, English, cwt.	4 0	5 0
Cabbages, tally	1 6	3 0	Radishes, doz.	1 6	0 0
Carrots, doz. buch. ...	2 0	2 6	„ long, doz.	0 9	0 10
Cauliflowers, doz. ...	2 0	3 0	Seakale	1 0	1 3
Corn Salad, strike ...	1 0	1 3	Shallots, lb.	0 2	0 3
Cucumbers doz.	10 0	15 0	Spinach, bush.	2 0	3 0
Endive, doz.	1 0	1 3	Sprue, French, doz. bn.	8 0	9 0
Herbs, bunch	0 2	0 0	Tomatoes, Teneriffe		
Horseradish, bunch ...	1 6	0 0	consignment	4 0	0 0
Leeks, bunch	0 1½	2 0	Turnips, doz. buch. ...	2 0	3 0
Lettuce, Cabbage, doz.	1 3	2 0	Watercress, doz.	0 6	0 0

Trade Catalogues Received.

Rivoire & Sons, 16, Rue d'Algérie, Lyons, France.—*Novelties. Nurserymen's Price List.*

Toogood & Sons, Southampton.—*Farm Seeds.*

Wilhelm Pfitzer, Seedsman, Stuttgart, Germany.—*Seeds.*



Butter and Water.

Here is another grievance for the long-suffering British farmer to nurse! Good butter contains 12 to 14 per cent. of water of combination, whilst if it contains as much as 16 per cent. it will not be condemned by an analyst as below the proper standard of solidity; but Colonial butter is now being imported and put on the market after being made up with a 14 percentage of new milk. The percentage of water is thus raised to something like 26 per cent. As milk can be obtained in quantity at little over 1d. per lb, very little calculation will demonstrate that butter which could be sold at 1s. per lb as imported may, after being made up with this proportion of milk, be sold at 10d. If the imported article is worth 1s. the mixture is worth 2d. less. As this blended butter is sold with a public statement as to the materials of which it is composed, it has been decided that there is no infringement of the law as it stands at present. There is, therefore, nothing to prevent this blending system from being enormously extended. That much and serious harm may be done the butter industry can hardly be doubted. The praiseworthy efforts of county councils and private individuals to raise the standard of country butter will be of little avail against such an insidious competition as this. Of course, British farmers may do the same thing, but, in the public interest, is it desirable?

Farmers' wives, keen after butter-money, have, in the past, sold too much buttermilk as and in their butter. Many of them have been taught the use of butter-workers, and the average percentage of moisture in farmers' butter has been much reduced. Are farmers to be driven back to old slovenly methods? We hope not. There is more combination in British dairying than in any other branch of our agriculture, and we trust that the various organisations will be well backed up by farmers generally in obtaining such an amendment of the Merchandise Marks Act as will prevent the use of the name "butter" in connection with any samples containing added milk or more than 16 per cent. of water.

An Import Tax on Wheat.

A few years ago the suggestion that a tax on imported Wheat would so soon be suggested would have been treated with the utmost scorn. That it is the unexpected which often happens is once more shown by the proposal in all seriousness by members of both political parties that we should so far, at least, go back on our free trade policy as to lay a small duty on imported grain. Of course, the motive of these suggestions is the common one of need of money. The nation has a very large bill to pay—some of it now and some in the near future—and politicians, both those now in power and those hoping soon to be, are casting round for the readiest means to make John Bull meet his obligations. Will any tax that is likely to, or, rather, may possibly, be imposed do much good to farmers? A substantial duty no doubt would; but is such an impost at all probable? One shilling per quarter as a registration fee is suggested. One of the first axioms of political economy states that the price of any commodity is raised by the imposition of an import duty in the same ratio which the imported portion bears to the whole consumption of the country. By this rule, as we import 80 per cent. of our bread stuffs, the imposition of 1s. duty should raise the price of Wheat by about 9½d. per quarter, and put into the farmers' pockets about a quarter of a million per annum. No doubt they would be thankful for even such a small mercy, but we very much doubt the wisdom of such a policy now we are so dependent on foreign supplies for our daily bread.

There seems to be an idea that an import duty raising the price of Wheat would greatly encourage its growth. A duty of 10s. per quarter, which would artificially raise the price 8s., might certainly do so to some extent, but nothing except famine prices could raise the Wheat production of this country to even half the quantity required for home

consumption. We wish no offence to advocates of protection, but we think the taxing of Wheat outside the pale of practical politics. Not so, however, as regards the taxing of imported flour. Such a tax would not interfere with the supply of bread, but would greatly encourage the home milling industry, and, indirectly, the collier and machine maker; whilst it would greatly increase the supply of seconds, pollard, and bran, which are so useful to and largely used by all classes of farmers.

In choosing subjects for taxation, however, the Chancellor of the Exchequer might find articles even more suitable than flour. The chief drawback might be that duties in these cases might not bring in sufficiently large sums. It must be economically bad policy, apart from questions of revenue, to allow free imports of articles which may be produced at home, such as Potatoes, vegetables, and, to a great extent, eggs and poultry, whilst heavily taxing such things as tea, coffee, &c., which are not produced in this country.

There is a strong and growing feeling amongst small farmers, market gardeners, and allotment holders that consumers who wish to enjoy foreign fruit and vegetables out of season can afford to pay such a price as would include an import duty; whilst fruit and vegetables in season can be produced here in any quantity, and too often do not find a market when grown. This feeling is, we say, a growing one, and only requires means of expression to gain great political force at no distant date. But there is foreign Barley, which is very largely imported, and the best qualities compete very strongly with the better classes of home production. Beer is, no doubt, heavily taxed, but more good than harm would be done by the taxing of foreign brewing materials. It would give a lift to the British Barley grower, and would not prevent the importation of foreign growth which command high prices, whilst the exchequer would considerably benefit.

A duty on Barley also suggests a duty on Maize, which is now so largely used in brewing, and we notice that some Chambers of Agriculture are agitating for a duty on it. We hold that the chief argument for a duty on Maize rests on its use as a brewing material. Maize competes with Oats as food for horses, but, taking every point into account, we think that, apart from its use for brewing, the farmer will not benefit by a duty on Maize. No doubt the revenue would do so, and, possibly as Maize competes with many articles of home growth, the imposition of a duty might be economically sound; but we do not think farmers throughout the country will agitate for it. If money has to be found by import duties, farmers should combine to get flour, Barley, Potatoes, and vegetables included in the schedule, and leave Wheat alone as a will o' the wisp.

Work on the Home Farm.

Having had another visitation of frost and snow we are still waiting for an opportunity to begin spring work. It is milder again, and the snow is gone, but it has left the surface soil very wet and sticky. There can be no rolling for a fortnight however dry it may be. Everyone is getting manure out, and the yards begin to look very empty and cold; except wet and dirty straw from the Potato pits, there is so little to give them a good foundation again. The slump in Potatoes is complete. A circular from a Manchester salesman quotes the highest price as 55s. per ton. Take 15s. carriage and expenses from that! 40s. for best stuff!! What will common ones bring?

We have seen a field of Wheat to-day which seems to have lost quite half its plant. The owner says it is the first field he has sown with Wheat on lea for three or four years, but he is tired of growing Oats these dry seasons. His land is strong, and he gave up Wheat before because it so often lost root. Heavy and continuous rolling is the best antidote, but rolling anywhere just now is well nigh impossible, whilst on this heavy soil it may be weeks before the roll may be brought into use. A good dressing of rape dust is the only other remedy, and though half a ton per acre may seem too much to lay out on a Wheat crop it must be remembered that rape dust has excellent manurial value, and should give an adequate return in this and succeeding crops apart from its effect in stopping the ravages of wireworm.

As the days lengthen we must keep a watchful eye on our young stock. Young cattle in loose boxes will require less forcing food, or cases of blackleg may follow. Many farmers at this season put setons in the necks of their growing calves, but we should prefer to commence a regular course of flowers of sulphur. A tablespoonful per head, given once a week, will be everything that is required to keep the blood in a healthy state. We should also be inclined to gently reduce the winter ration as the sun gains in power. In the case of feeding sheep we should increase the cake allowance, but follow up the sulphur treatment even more strenuously. Allowance, 1lb to fifty sheep.

BARR'S SEEDS

OF FINEST SELECTED STRAINS AND TESTED GROWTH

BARR'S NEW DWARF EARLY MARROWFAT PEA. "THE HERALD."—A very valuable addition to our early peas, coming in with *William the First* and other earliest round peas, and bearing a profusion of large well-filled pods, containing 8 to 10 peas of fine rich flavour; sturdy branching habit, height 10in. to 12in. Per pint, 3/6.

BARR'S GOLDEN WAX POD DWARF BEAN, bearing large handsome fleshy pods of delicate flavour, an abundant bearer, and very early. Per pint, 1/3; per quart, 2/.

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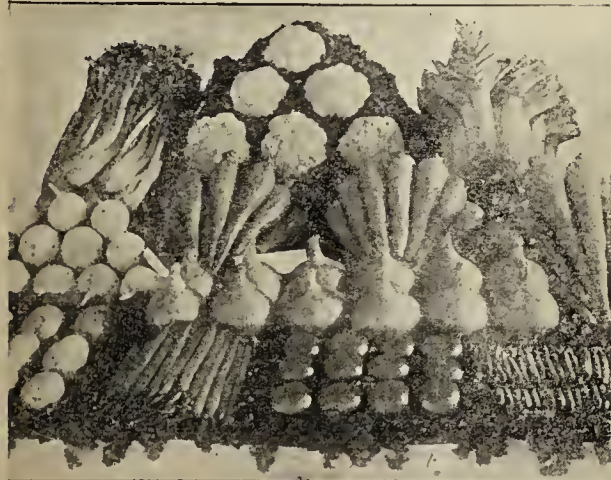
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Journal of Horticulture.

THURSDAY, FEBRUARY 20, 1902.

Old Time Gardening.

(Continued from page 50.)

It may be thought that Chaucer's presentation of gardens and gardening is of no great value for determining the condition of Horticulture at an early period in England, and perhaps that is so; but at the same time I imagine a very definite amount of information can be extracted from his works. The particular utility of that information is that the same state of things would exist long previous to the Chaucerian epoch as well as to an extended period afterwards. Conservatism was largely characteristic of gardening in the Middle Ages, nothing of the feverish instability characteristic of the present day being known. Hence it is safe to conclude that the gardens of Chaucer were also the gardens of England during quite a lengthened period.

With a light touch the great poet limns several types of mediæval gardens. Here is the one mentioned in "The Knights Tale," situated close under the walls of the Castle of Theseus, in which his sister delighted to walk in the early hours of morning gathering flowers to make a "sotel" garland for her head. Much of the same description is the garden of "Crysyde" and that of Deiphebus, both of which were attached to the dwellings of their respective owners. Entrance to each was effected by means of a stair; the alleys were railed on each side, and all the walks were sanded. In one, were the inevitable "benches" of turf, and in the other the equally ubiquitous "herbere grene." In many respects the garden at Windsor, so far as it is described by James I. of Scotland, was identical with these. Fast by the walls of the Castle it also possessed "an herbere grene," with trees in abundance and Hawthorn hedges, while the alleys were "beschudit"

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with "bewis." That the latter were trained over the walks appears in another canto of the poem, "The King's Quhair," where is mentioned

The grene bewis bent
Throu guhom and under first fortunyt me,
My hertis helc and my confort to be.

Illuminated manuscripts, on the other hand, show that the rails of Chaucer may have been of plain wood, with the cross pieces inserted diamond fashion, trellises in fact. In the Gardens of January and of Arviragus there is the very marked difference that both were at a distance from their respective dwellings, and, not improbably, the poet had in his mind this class of gardens, as rented by the citizens of London, a kind of occupation which seems to have continued, if not in London, at least in other centres, till the present day. A lease still exists, dated 1375, of a garden situate in Tower Yard, &c., "between the Garden which Geoffrey Puppe holds on the North side, and the Garden which William Lamburne holds on the South." January's garden was "walled with stone," and in addition to the usual bench of turves, mention is made of a well or fountain shaded by a Bay Laurel.

In the Assembly of Foules a garden of altogether different stamp is described, being similar to that mentioned in "The Romaunt of the Rose," and by Bishop Douglas and others of the old poets. This garden would appear to have formed a portion of a walled-in park where trees were abundant. A river flowed close by the garden, and cold streams swarming with fishes, and fed from a fountain, meandered through its midst. In "The Romaunt of the Rose" the banks of the stream are clothed with grass powdered with various flowers—the Violet, Periwinkle, and others. There, too, the trees of the garden are full of blossom, and peopled by singing birds continually making melody. Among the trees, which in more than one instance are noted as being planted in rows at equal distances apart, and with their boughs so closely interlaced as to intercept every ray of the sun, rabbits were at play, and deer of various kinds made themselves at home. There were also squirrels and "bestes small of gentle kind" in plenty. A Flemish illumination shows just such a garden with its outer walls embattled, its fountain, round which men and women sit, one of the number playing a musical instrument; its little stream of water; its trees, on which many birds are perched; and its flower beds, railed, and within one of which is a little tree with a wire protector, not impossibly an indication of the near proximity of rabbits and other gentle "bestes"!

The last type of garden noted by Chaucer is of quite a lowly nature. One which belonged to a carpenter is simply mentioned; the other, more fully described, to a poor widow, who kept a dairy of a few cows, with pigs and poultry. The latter had obviously the run of the garden, which was cut off from the unenclosed country around by means of a dry ditch, inside which was a "dead" hedge of sticks. Till quite a late period this method of fencing continued in use in small gardens; but in Chaucer's time, and long afterwards, many large gardens possessed no other means of protection beyond a ditch, not, however, always innocent of water, and a mound of soil surmounted by a hedge of dry sticks. In the Rolls of Ely for 1372 is an entry of 6s. 8d., paid for four cartloads of thorns for this very purpose.

The widow's garden, just as in the north of England and in Scotland to this day, was termed a "yerd." "Wortes" are the only vegetable mentioned as being cultivated in this yard; but it is to be noted that the poor, who lived mainly on vegetable products, found much of their food on uncultivated ground. Thus "Griseldes," who, with her father, lived in the same building with their oxen, and who had a few sheep "on the feld," seems to have existed on the "wortes and other herbis" which she brought home daily, and which she chopped up and boiled for her "lyving." The widow was rather better off; but her garden would doubtless be a poorly furnished one, and possibly was largely occupied with medicinal herbs, such as are mentioned by Dame Pertelot. Some editions of Chaucer name the Elder as being cultivated for its fruit; but the word is no doubt wrong, and "Elebore,"

which, like the others named, is a purgative, the correct one. In the same way, the Dogwood, which has a long train of commentators on its side, is supposed to have been grown in the dame's yard under the name of "Gaytre"; but this is as little a purgative as the Elder, and not unlikely the word is one of the existing mistakes of Adam the Scrivener, so sadly berated by Chaucer for his carelessness. "Gladyn," a medicinal plant of great repute, would meet the case, and thus we find this little garden devoid of all vegetation save a few physic herbs and some vegetables for pottage.—B.

The Horticultural Hall.

As a headline on schoolroom writing books one may see the motto, "A work well begun is half done." Applying this to the long discussed Hall scheme to be raised in a central part of London for the exhibitions of the Royal Horticultural Society and the numerous other "Nationals" centred in the great metropolis, we may surely say that steps are now well along the way that will lead up to that much-needed edifice frequently referred to as The Horticultural Hall. By our report of the proceedings of the Royal Horticultural Society at its annual general meeting, held in the cold and draughty Drill Hall of the London Scottish Volunteers in Westminster, last week, it was stated that a strong committee, consisting of Baron Schröder as chairman, Rev. W. Wilks as secretary, and Earl Ilchester, Sir Trevor Lawrence, Bart., Dr. Masters, Harry J. Veitch, Esq., N. N. Sherwood, Esq., and H. B. May, Esq., as its members, had been engaged for some months past in considering sites (five in all) for a horticultural hall in the interests of the Royal Horticultural Society. There is no longer any question of a new garden being secured as a means of celebrating the Centenary of the Society; the annual general meeting last week at Westminster pledged itself to support the Council in their efforts to found a hall suitable in every respect for the needs of Horticulture in the capital of England, and the Fellows will shortly again assemble to discuss a number of vitally important points in this great undertaking which, in full confidence, we may say is now on the way to completion.

But enormous efforts will require to be made. Every gardener and every society in the kingdom will, we most earnestly trust, take the matter to heart, and do that which everyone, wheresoever or howsoever placed, can do to assist the great money-raising effort that will be necessary. Providing that the site which is now engaging the attention of the above-named committee commends itself to the majority of the Fellows, what steps will follow? The Press is the chief medium whereby the many questions pertaining to the scheme can be briefly discussed prior to the eventful date of the next general meeting, in which the matter will be brought forward. Discussion seems to us to be very necessary (1) as a saver of time; (2) because it should give a large number of suggestions, some of which may be important; and (3) it will train those most interested in the needs of the case, and give everyone due time to think, which cannot be the case if Fellows assemble at a meeting and endeavour to debate on a subject so pregnant with onerous responsibilities.

Before concluding this cursory descant, it seems to us apposite to recall some of the suggestions made in the *Journal of Horticulture*, December 17, 1896, pages 576 and 577, in reference to this same subject by Mr. James L. Wood, of Oakleigh Park, Whetstone. Briefly summarised, Mr. Wood's propositions come under three main heads—(1) the promotion and formation of a horticultural hall; (2) the establishment; and (3) revenue. These three heads were sectioned out to thirty-eight clauses, the majority of which have little applicability now; but the following suggestions appear still to be valuable. That: Rose and other floral festivals be held all over the kingdom (would not Shrewsbury, Wolverhampton, and Hanley help greatly?), and that the horticultural Press open its columns for subscriptions; every society remitting £50 to be represented by Life Governors (in connection with the annual and other business of the R.H.S. appertaining to horticulture); every society remitting £25 to have an Associate elected as its representative, and who would have a voice and vote in deciding the plans for a hall. The General Council to be further strengthened by the admission of head gardeners at half the qualification fee for Life Governors—viz., £25. That the Livery Companies of the City of London be approached, and their assistance solicited. By these means a thoroughly representative constitution, and one that should ensure the keenest interest of provincial forces, would be ensured, and all interests would have a fair consideration. It has been variously estimated that a hall and ground bought would cost from £80,000 to £120,000, which can be raised if we all try.



Calanthe Veitchi variety.

One commonly sees slight variations of colour in a number of plants of *Calanthe Veitchi* (a bigeneric hybrid from *Calanthe vestita* x *Limatodes rosea*), but it will be admitted that such marked differences as that presented in the illustration on this page are rare, and when such may be produced, they are sufficient to constitute a very distinct variety. Our illustration of a raceme produced from a plant grown in the Rangemore Gardens, Burton-on-Trent, some years ago, shows a partial reversion of

quired. When the raft is badly decayed, it is, of course necessary to give a new one, but where only a little of the wood is gone this decayed portion may easily be cut away with a sharp knife, leaving the sound wood beneath.

An excellent plan with plants that are easily injured by disturbance is to have a fairly large vessel of tepid water, and placing the plant in this, work all the old compost from about the roots with the fingers. Softened as it is by the water, it will come away easily, and the syringe may be used to finish off any chance bits that remain. The plants should be hung up afterwards in a dry warm house, and when all are thoroughly dry all decayed roots should be cut clean out with a sharp knife, also any old and worn-out pseudo-bulbs that are of no further use to the plant. Orchids do not like the knife, and only that portion that is really useless to the plant should be cut out, back leafless shrivelled bulbs, and decayed portions of the rhizomes.

A blunt dibber and a sharp one should be procured for fixing the compost, the latter for use under the roots, and in places where the blunt one cannot. A few pieces of crocks and char-



Calanthe Veitchi variety.

the hybrid, and so far as the form and colour of the sepals and petals are to be considered, the *Limatodes* is more apparent, but the lip proves the potency of *C. vestita*. The heavy, clustered appearance of the raceme is another point of difference from the true form of *C. Veitchi*, and is of additional interest. Here the lip is white and the sepals rosy.

The Week's Cultural Notes.

Lælia anceps and similar Orchids that now need repotting are often disturbed more than is necessary at the roots when these are growing on the trellised rafts used for this class. In many cases they are taken off and transferred to new ones, when a little new compost placed about them is all that is re-

quired. coal may be introduced with the peat and moss, and all trimmed off neatly with a pair of strong scissors. This plan will go a long way to prevent that troublesome shrivelling of the pseudo-bulbs before they have time to re-establish themselves that is so common with this plant.

Watering must be very judiciously done after repotting of any kind, and with those plants that are suspended in the house a few light dews from the syringe just to keep the moss alive are all that is necessary until root action recommences. When the new roots begin to run in the peat and moss gradually increase the supply, and as new compost usually dries quicker than old, more frequent applications will be required than for plants with old compost about them. Only guard against getting

it into a close, sour condition before the roots have had time to run through it. Whenever the roots seem slow in coming, and there appears to be a danger of the plants not establishing themselves, remember that a moist atmosphere and dry compost helps in this direction.—H. R. R.

Lælia and Cattleya Roots Turning Black.

Not many weeks pass but that I get complaints from some one respecting the roots of their Orchids turning black at the tips, often with a request that I will say at once what is the matter with them, and how it may be prevented. This is not easy, as a rule, for there are many causes that produce apparently the same effect. For instance, with a newly imported plant there is often a flush of young roots from the lead, and though they look healthy and strong at first, they begin to turn black when only an inch or two in length. There is nothing in the compost to cause the roots to decay; indeed, many of them will not have touched the compost.

In these cases I have little doubt that the roots in an embryonic condition are damaged by the long drying the plants get after collecting; they are weakened in some way, and soon show it when they are emitted. In other cases I have no doubt that the compost being unsuitable is the cause. When one sees roots pushing from a healthy bulb, and themselves keeping healthy until they reach the compost, when they turn black, then there is something wrong with that compost. Possibly the sphagnum has been collected from a foul stream and was not washed before use; or there may be something wrong with the peat. But whatever it is, the compost should be renewed and care taken in its preparation.

Weak and debilitated specimens often push short roots that perish in the attempt to establish themselves. Here the case is quite hopeless, for unless a plant has its roots at work foraging for its needs, it will get gradually weaker until it dies. They may have been saved by taking them in time and giving fresh new compost, but there comes a time when this is useless, and no matter how good or how valuable a variety may be, its place is the stovehole, where it will have to go before long. Thus the causes of a plant going wrong must be looked for in the plant itself or its immediate surroundings. It is quite useless to look for a specific cure that is going to suit all cases.—H. R. R.

Spinach, and its Substitutes.

The earliest supplies of Spinach in well-appointed kitchen gardens will be obtained from autumn sown plants which have been sown on well-drained ground, and, standing through the winter, make early growth in spring, producing leaves for picking before a crop can be secured from a spring sowing. For standing through the winter the prickly variety of Spinach is frequently recommended, but there is little or no difference between this and the round variety. If anything the latter is the hardiest. As soon as the winter Spinach commences to grow proceed with thinning the plants. The best of them may be used, the others thrown away. Continue the thinning as the plants begin to touch each other, leaving them finally 4in to 6in apart.

The first sowings of round Spinach in spring should be made on the warmest border in broad, shallow drills, and rather thickly, as the plants from this sowing will hardly have time to develop to full size before required for cutting. In the next sowing scatter the seed more thinly. The plants will grow stronger from the first, and throw out finer foliage. As soon as any of the plants are ready for use, though small, thin them out, thus giving the rest more space to extend. Rich and deep soil produces Spinach with large and succulent leaves. Moist and shady, as well as rich, ground should be selected for the main summer crops.

A good position for Spinach is between rows of Peas, where the ground is invariably good, and some shade is afforded. Draw a broad drill about an inch deep, and distribute the seed evenly, covering with the finest of the soil. When sowing during a dry period, it will facilitate germination if the drill is soaked with water or liquid manure; also, should dry weather continue, the young seedlings may be helped forward into quick growth by frequent overhead waterings. This, however, will only be necessary for the actual summer sowings, the moisture in the ground in spring, and especially in deep, rich soil, being sufficient for all requirements at that period. The best of the varieties of common Spinach are the Longstanding Round and Viotoria, both these remaining some time without running to seed.

A good substitute for summer Spinach where the soil is unusually light and dry, is the New Zealand Spinach. This is of annual growth, and is rather more trouble in the early stages if it is desired to gather early in the summer, for the seeds ought to be sown singly in small pots of light soil, placed in a temperature of 55deg to 60deg, early in April, hardening off and planting out in May in rich, light soil. During May seed may be sown outdoors. The plants raised in pots should be

planted out 30in apart, and receive plenty of water during growth. When sowing the seed outdoors, the rows may be 3ft apart, thinning the seedlings to 30in. It is only the leaves which are used for cooking, and they can only be had in summer. The plant is not hardy enough to stand frost. Although popularly known as Spinach, it is quite distinct from the common Spinach, which belongs to the order Chenopodiaceæ. The New Zealand Spinach is *Tetragonia expansa*, belonging to the order Ficoideæ, or Ice plant order.

Another plant, known as Perpetual Spinach, is quite hardy, and gatherings of leaves may be made all the year round when



Watsonia rosea. (See page 163.)

once the plants have become established. The young leaves are the best. This is known as Spinach Beet, and belongs to the same order as Beetroot and common Spinach—namely, Chenopodiaceæ. The culture of Perpetual Spinach consists in sowing the seed where the plants are to stand in rows 18in apart and 2in deep, in April. The seedlings are best thinned to 9in apart in the rows.

Some gardens contain a good breadth of what is known as Wild Spinach, All-good, or Good King Henry (*Chenopodium Bonus-Henricus*). It is also known as Mercury, and is frequently grown in cottage and other gardens in Lincolnshire, where it is appreciated, because early pickings of leaves may be gathered and used as a substitute for Spinach. It is a hardy perennial, and a bed will last in good condition several years if mulched with a thin layer of manure each autumn. In order that it may prove useful, it should be grown in a rather dry and sunny spot. It may be established from seed, which should be sown in April. First well trench and manure the ground. Sow the seed in drills 1in deep and a foot apart, thinning out and leaving the plants finally at 9in apart.—E. D. S.



Late Houses of Black Hamburg.

The Vines should be kept cool and the soil only moderately moist to preserve the roots in sound condition. It will be necessary to ventilate freely at and above 50deg, and when that becomes the mean of the external air, or a little before, the Vines will break naturally. The Vines will set their crops by the early part of June, and the berries swell with sun heat, artificial heat only being required after the Grapes begin to colour.—A.

Grapes for July and August.

The Vines must now be started. Damp the rods three times a day, also the floor and similar surfaces. A temperature of 50deg at night, 55deg by day, and 65deg from sun heat is suitable until the buds begin to move. Bring the inside border into a thoroughly moist state by repeated supplies of tepid water or liquid manure. Afford outside borders sufficient protection to prevent chill. Depress young canes to the horizontal line, or lower, to insure the buds breaking evenly.—G.

Auriculas and Polyanthuses.

The time to top-dress these charming flowers has arrived. Look in the compost yard for some very rotten cowdung, two years old at least, and some rotten leaf mould and light loam. If these are not dry use means to make them so; mix them well together and add a little sand; then have your plants in some convenient place, remove a portion of the old soil, clear away all decayed leaves, and apply the top-dressing of fresh compost; press it rather closely to the stem of each plant, give a gentle watering with a fine-rose watering pot to settle the new earth, and attend to them carefully. This top-dressing greatly strengthens the plants, and consequently the blooms.—T. A.

Late Grapes.

To do justice to late Vines, they require a long season of growth, as to ensure the Grapes keeping well they should be ripe by the middle of September. To effect this, the Vines ought to be started at the end of the present month or early in March. Let the inside border be well supplied with water, and a supply of liquid manure will assist weakly Vines, but avoid making the soil sodden by needless applications. Remove the loose surface soil from the border, and supply fresh loam with one-third of well-decayed manure intermixed, sprinkling over each square yard 4oz of this mixture: Dissolved bones, dry and crumbling, five parts; sulphate of potash, two parts; and sulphate of magnesia, one part; mixed.

Strawberries in Pots.

The earliest plants, those started in November, have set the fruit fairly well, and being thinned to about half a dozen fruits to each plant, are swelling freely. The December plants have, however, been brought on slowly, and are commencing to flower strongly. These will give a far better crop of fruit than those started very early, provided air be freely admitted, the weaker flowers removed, and, when the pollen is ripe, each flower is lightly brushed over with a feather charged with the fertilising pollen. After the fruit is set, thin them to the number the plant is likely to swell perfectly, this being a matter for judgment, and must be regulated by the condition of the plant and variety. Whilst the fruit is setting 50deg to 55deg will be sufficient heat artificially and 70deg to 75deg by day, supplying liquid manure until ripening commences; then employ water only, and sparingly. Whilst swelling they require a moist atmosphere. Successional plants must not lack water; but needless watering is highly prejudicial, therefore examine each plant, and afford a supply only when required. The plants succeed best when brought on gently, a temperature of 50deg artificially being ample. Examine the plants carefully for aphides, and, if there be any trace, fumigate moderately, taking care to have the plants perfectly clean before they come into flower.—A. G. S.

Starting Pine Suckers.

Suckers will have to be started about the commencement of March to provide plants to give a succession of fruit from next December onwards. Therefore attend to the preparation of the soil for potting, and a fermenting bed in some close structure to generate and maintain a bottom heat of 85deg to 90 deg near the surface, and with means of maintaining a temperature of 55deg to 65deg by fire heat with regularity.—PRACTICE.

Begonia Gloire de Lorraine.

The sports from this charming hybrid are becoming numerous and somewhat varied in their characteristics. The sports, so far as is known to us, include the light pink Mrs. Leopold de Rothschild, the earliest break from the type that is recorded. Then came Caledonia, with ivory white flowers; later, "Turnford Hall," taller in growth, with white flowers profusely borne; then alba grandiflora, which is remarkably like "Turnford Hall"; and the latest addition we hear of is an American member named Dreer's nana (erecta) compacta. From a photograph we have seen, the foliage is large and fleshy, and the habit of plant close, condensed, and lacking the grace of the parent.

Watsonia rosea.

The Watsonias, or Bugle Lilies, are exceedingly graceful and beautiful South African Iridaceous plants, that are, unfortunately, only hardy enough to be grown out of doors in well favoured gardens southward from the Thames and the Bristol Avon. They are much like Gladioli in appearance, as the figure on page 162 so well illustrates, and flower during May till August. *Watsonia rosea*, indeed, is sometimes wrongly named *Gladiolus pyramidatus*. The somewhat bell-shaped flowers are borne on crowded spikes in July and August, the colour being a beautiful rose-tone, the basal spathes purple. Seeds can be sown in cold frames in a week or two; or the cormous offsets may be placed in pots or frames among rich sandy loam, with a little leaf mould or peat, and thoroughly well drained.

Starting Pines into Fruit.

The batch of plants selected about the beginning of last December, and started by an advanced temperature and moisture, will now be showing fruit. As it is advisable to enhance the ripening of the fruit of these plants as much as possible, the temperature about them may be maintained at 65deg to 70deg at night, and 75deg to 80deg in the daytime under favourable circumstances, ventilating at 80deg, allowing an advance to 85deg, and close about that figure. With fruits advancing, the plants will require more water at the roots, examining the whole stock once a week, as with increased light and heat the need for liquid will correspondingly increase. It must not, however, be applied indiscriminately, but only to such plants as need a supply, always in a tepid state, and with a little stimulant in it, as guano, or some approved fertiliser. Recently started plants to succeed those already named should have a night temperature of 65deg, and 70deg by day artificially, which will be sufficient for them for some time longer.—G.

Scented Persian Cyclamens.

There was, at a very recent date, a grand display of Persian Cyclamens to be seen in Messrs. Sutton's London Road Nurseries, Reading. Nowhere else could better grown plants, or more beautiful varieties, be seen, and it would seem that this section of Cyclamens have reached perfection. Several new shades of colour have been developed, and more are in the process of being evolved, the finer forms being Sutton's White Butterfly, Salmon Queen, Giant Cherry Red, and Vulcan, all of which originated in these nurseries. Not only are Messrs. Sutton succeeding in greatly beautifying the foliage of their several strains of Cyclamen, but they are also turning their attention to scented varieties, with a view to communicating these scents to otherwise perfect varieties which, unfortunately, are a little deficient in that respect. One plant shown me was exquisitely scented. It compares most favourably with the very pleasing odour of the Lily of the Valley; in fact, the scent closely resembles that of this most popular flower, and I hope soon to learn that Messrs. Sutton are in a position to offer seed of a Lily-scented strain of Cyclamen, thereby gaining the gratitude of innumerable admirers of Cyclamen lovers generally.—W. I.



English-raised Seedlings.

It is not a difficult matter to find a few notes on home-raised Chrysanthemums, especially as the Editor has confined one to those seen last autumn to be distributed this spring. One can, therefore, pass over the many kinds of previous years that have come rocket-like with great reputations, only to be thrown aside after a season or two. I do not attach so much importance to home-raised kinds as many do, for this reason: They are exceptionally well grown for the purpose of obtaining the coveted award of First Class Certificate, that in the great majority of cases we have found cultivators generally fail not only to produce blossoms of equal merit, but also find that these most handsome flowers have bad habits. To illustrate what I mean, take the varieties Mrs. H. Weeks and Hon. F. W. D. Smith. The first gives but a single show bloom to a plant; the other is so uncertain that we must grow, I was going to say, fifty plants to obtain a good one.

But this is of the past. Certainly good material was never so abundant as seen in the latest batch—those principally from Exmouth. I do not know the origin of the many fine coloured sorts; but from the build of the blooms one might fancy that Mr. Godfrey has used that grand variety, M. Chenon de Leché, pretty freely for seed purposes. Be this as it may, this set must be constant, or one grower could not have produced so many grand flowers in a season as were exhibited. Godfrey's Masterpiece is a nicely finished flower of a deep cinnamon red shade, with an old gold reverse; Godfrey's Triumph has the appearance of a dark-coloured flower of M. Chenon de Leché. Godfrey's Pride is a giant in size of a dull red in shade, and to me it seemed rather short in its florets. A large Master H. Tucker would give one an idea of this kind. Godfrey's King is a particularly bright and handsome flower, and exhibits plenty of the surface shade—a dark cinnamon tint. Exmouth Crimson is a flower of fine colour. This also shows the surface shade, being of reflexing form. Queen Alexandra is a massive variety, with blooms of a light buff shade. A full, rich-looking, spreading flower is Sensation—colour, deep yellow, with red shading.

I was much struck with the beauty of Ethel Fitzroy. It is distinct in colour—a bright, deep shade of amber. The size and build of the bloom make a variety of much value for exhibition, and, indeed, all purposes. Duchess of Sutherland is not by any means the least handsome of the many fine things of the year. It is orange-yellow in colour, large, and of true Japanese shape. The flowers of Violet Lady Beaumont are of a deep crimson colour. It is a large, massive variety, which lasts a long time in a fresh state.

Bessie Godfrey is a first-rate type of the Japanese Chrysanthemum of a light yellow colour, a shade fairly plentiful. May Vallis has size to recommend it, but the colour—rosy purple—is not over-bright. One thing is noticeable this year—no white variety of any merit (at least, as an exhibition sort) has appeared. It is not easy to improve upon existing ones. The colours most needed are forthcoming—namely, crimsons and deep buffs. In the autumn I saw a most interesting lot of seedling plants of Chrysanthemums at West Hall, Byfleet. Out of some dozens scarcely one was other than a shade of red, and the florets generally had a taking gloss which may be termed quality. With these well grown this year, Mr. Carpenter should have something next autumn in the way of genuine English seedlings to whet the appetites of lovers of the autumn queen.

In one class—namely, the newer type of incurved Chrysanthemums—home raisers have much the best of matters. This once very close section has been widened by the introduction of kinds nearly as large as the Japanese, and which are perfect in their formation, assisted somewhat by the skill of the cultivator in the way of "dressing." William Higgs is a large, well-built bloom of a bronzy buff shade. Perfection has white blossoms, and is a first-class kind. The colour of C. Blick is a soft shade of blush-pink, deep and handsome of build. Nellie Stevens is a variety with excellent form, and of a straw shade of colour.—H. S., Woking.

Chrysanthemum Audit.

I have run through the first fifty Japanese varieties as they appeared on page 96, and I can but think that great credit is due to our home raisers, for I note that the half of them have been raised (either by seed or sports) in England, Mr. Weeks taking the laurels. Then, French varieties are only represented

by eleven, of which Mr. Calvat claims eight; Australia is responsible for eleven, of which Mr. Pockett claims seven; America claims Mutual Friend and, I think, Lady Ridgway (?); while Belgium can boast of Mdme. Herrewège, and as some doubt exists about this being a sport from Australie, I will explain how I got it. It was at the 'Mum Show at the Paris Exhibition, in 1900, that a gentleman, who had brought three flowers from Belgium, was offering the stock for sale, and who said to me, "I have some flowers of a white sport from the variety Australie in the plant department. Would you like to see them, and make an offer for the stock?" I felt doubtful about a white sport from Australie (which is yellow), and did not trouble much about it. However, the gentleman pressed me to come and look at it, and I could see it was similar to Australie in foliage and stem, but the florets drooped rather too much, but yet it had the downward curl, like the parent; so I ventured an offer, but asked, like Mr. Herrewège, to send me some flowers with long stems, so that I could be more certain of its parentage. This was done, and I felt satisfied. I secured the stock and distributed it. I am quite sure that it is a sport from Australie, for there is no difference in any way except colour, and that the florets reflex more freely. Some sports differ from the parent much more than others do. Take Ethel Amsden (the green Vivian Morel sport), for instance; or the yellow Chenon de Leché. Sports are curious in more ways than one. How is it that a Chrysanthemum will keep true for a number of years and then all at once sport in several collections? This was the case with Mdme. Carnot, Vivian Morel, Mdme. Marie Massee, Australie, &c.; and the season just passed has given several sports, viz., from Nellie Pockett, Mdme. R. Cadbury, Mdme. Gabriel Debrie, T. Carrington, and Millicent Richardson, and a white Flora. Why has not Flora sported before, when many varieties sport almost the first year of distribution? A pure white Flora should be an acquisition, although it is not a monster Jap. I am often asked, "Why do Chrysanthemums sport?" or, "How do you make them sport?" Can anyone answer this question?

English Varieties.

CHRYSANTHEMUM	RAISED BY	DISTRIBUTED BY
Florence Molyneux	N Molyneux.	Agate.
Miss E. Pilkington	N. Molyneux.	Agate.
Mrs. Barkley	Weeks.	Davis.
Miss Alice Byron	Weeks.	Davis.
Mrs. H. Weeks	Weeks.	Davis.
Lily Mountford*	Weeks.	Davis and Wells.
Mrs. Coombes	Weeks.	Davis.
Henry Weeks	Weeks.	Davis.
Madame R. Cadbury	Weeks.	Davis.
Edwin Molyneux	—	Cannell.
G. J. Warren	Sport.	Wells.
Lady Hanham	Sport.	Wells.
Mrs. White Popham	Silbury.	Wells.
Mrs. W. Mease	Sport.	Jones and Wells.
Mrs. G. Mileham	Mileham.	Jones and Davis
Mrs. Greenfield	Mileham.	Jones.
Mrs. J. Bryant	Love.	Jones.
Henry Stowe	Weeks.	Jones.
Mr. A. Barrett	Sport.	Jones.
Edith Tabor	—	Notcutt.
Mrs. J. J. Thorneycroft	—	Silbury.
Sir H. H. Kitchener	—	Owen.
Charles Davis	Sport.	Davis.
George Carpenter	Carpenter.	Davis.
Mrs. G. W. Palmer	Sport.	Davis.

Australian Varieties.

CHRYSANTHEMUM.	RAISED BY	INTRODUCED BY
Australie	?	Cannell.
J. R. Upton	Upton.	Davis.
W. R. Church	Pockett.	Wells.
Nellie Pockett	Pockett.	Wells.
Tom Carrington	Pockett.	Wells.
Lord Ludlow	Pockett.	Wells.
Charles Longley	Pockett.	Wells.
Lord Salisbury	Pockett.	Wells.
Matthew Smith	Pockett.	Wells.
Pride of Madford	?	Cannell.
Mermaid	Brunning.	Cannell.

French Varieties.

Le Grand Dragon	Calvat.	Calvat.
Mons. Chenon de Leché	Calvat.	Calvat.
Madame Carnot	Calvat.	Calvat.
Mrs. James Lewis	Calvat.	Calvat.
Calvat's 99	Calvat.	Calvat.
Madame Gustave Henry	Calvat.	Calvat.
Madame Phillipe Rivoire	Calvat.	Calvat.
Mons. Hoste	Calvat.	Calvat.
Mons. Louise Remy	(Sport: Remy.)	Wells.
Phœbus	Lacroix.	Lacroix.
Vivian Morel	Lacroix.	Lacroix.

Belgian Variety.

Madame Herrewège	(Sport: Herrewège, Belgium)	—
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American Varieties.

Mutual Friend	—	—
Lady Ridgway	?	?

* I am giving Weeks the credit of Lily Mountford, but its name should be Hilda Chamberlain.

NOTES

& NOTICES

Weather in S. Perthshire.

Twice towards the close of the past week an imperfect thaw obtained for a few hours. Generally keen frost, from 11deg to 18deg, has prevailed, with bright days and nights, an entirely seasonable course of weather.—B. D., S. Perthshire.

Hull Fruit Merchants Dissatisfied.

The Hull fruit merchants consider they are unfairly handicapped by the inadequate railway facilities, and with a view of obtaining a revision in the arrangements they have formed a transport committee. This committee will take the earliest opportunity of laying their grievances before the railway companies.

Our Spring Number.

Annually in the month of March the *Journal of Horticulture* incorporates within itself a bulky supplement, fully illustrated, and including articles of merit on a variety of subjects from numerous able writers. The issue containing the supplement and constituting this Spring Number will appear on Thursday, March 13, when a large additional impress of copies will be made. We invite short contributed notes on "out-of-the-way" subjects for probable insertion on this occasion, relying on the continued assistance of our readers (as in times past) to furnish one of the best numbers of the *Journal* for the year.

Royal Horticultural Society.

The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, February 25, in the Drill Hall, Buckingham Gate, Westminster, 1 to 4 p.m. A lecture on "The Use and Value of Nicotine in Horticulture" will be given by Mr. G. E. Williams at 3 o'clock. * * At the annual general meeting of the Royal Horticultural Society, held on Tuesday, February 11, sixty new Fellows were elected, amongst them being Lady Boston, Col. J. Heap, George H. Baxter, F.Z.S., and the Rev. H. M. Wells, M.A., making a total of 183 elected since the beginning of the present year.

Death of Mr. Henry Tate.

It is with the deepest regret that I have to announce the death of Mr. Henry Tate, fifth son of the late Sir Henry Tate, Bart., at his residence, Bolney House, Ennismore Gardens, from acute pneumonia, at the early age of forty-eight years. The late Mr. Tate, who formerly lived at Allerton Beeches, Liverpool, will be best known to the majority of horticulturists for the very choice collection of Orchids which he purchased with the most discriminating care from the best firms in the kingdom, and at any time of the year the visitor to his gardens always found something interesting. Hybridising had for him an especial charm, the Cattleyas and Cypripediums raised by Mr. E. J. Edwards, the gardener, and his successor, Mr. Charles Osborne, containing many magnificent forms, the whole collection being disposed of prior to Mr. Tate leaving Liverpool for London.—R. P. R.

Liverpool, and the Gardeners' Royal Benevolent Institution.

A strong committee, with Mr. C. A. Young, of the Floral Nursery, West Derby, as chairman, Mr. R. G. Waterman (secretary), Mr. Crippen (treasurer), and Messrs. J. Finnigan and R. Pinnington (musical directors), has been formed for the purpose of submitting the programme for a smoking concert to be held in the City Hall, Eberle Street, Liverpool, on March 12, in aid of the Royal Gardeners' Benevolent Institution, when the chair will be occupied by R. J. Harvey Gibson, Esq., M.A., F.L.S., Professor of Botany, University College, Liverpool. In addition, the gardeners and friends will have the pleasure of a visit from H. J. Veitch, Esq., and the Secretary of the Institution, George J. Ingram, Esq. Although several handsome donations have been at various times sent from this district, the opportunity will now be given for a wider circle of friends to contribute, and thus help a really deserving charity. The committee are sparing no trouble to make the meeting a great success.

Kelp for the Soil.

Twenty-four tons seaweed yield one ton of kelp. This gives about 8lb of iodine. Seven thousand tons of kelp are made yearly on the shores of Great Britain.

Bedford Weather and Crops.

A correspondent, "G. R. A.," writing from Bedford, complains of the severe weather there, which has stopped all outdoor operations. Plants in the hardy herbaceous borders are very backward. The maximum day temperature has only once risen to 43deg Fahr. since January 28. Starlings have been building since the 9th of last month among stacks of warm chimney-pots.

Judging Carnations.

The scale to be used for judging all Carnations at the exhibition of the American Carnation Society is as follows:—Colour, 25; size, 20; calyx, 5; Stem, 20; substance, 10; form, 15; fragrance, 5; total, 100. To secure a certificate or preliminary certificate a Carnation must score 85 or more points. In the general classes a score of 85 or more will be required to award a Carnation first premium.

National Rose Society.

We regret to announce that the Rev. H. Honeywood D'Ombrian, the original founder of the National Rose Society, and for more than a quarter of a century its senior secretary, has been compelled through ill-health to resign the secretaryship of that society. The announcement of this decision was received with much regret and sympathy by all present at the committee meeting on Tuesday, the 11th inst.—E. M.

Examination in Horticulture.

Candidates wishing to sit for the Royal Horticultural Society's Examination in Horticulture on Wednesday, April 23, are requested to send in their names, with that of their supervisor as early as possible. Entry forms may be obtained on application to the Secretary, R.H.S., 117, Victoria Street, London, S.W. Applicants should enclose a stamp. The Society will also in future continue to hold its examination in April, and not in February, as it was once intended.

Kew Greenhouse.

The greenhouse at Kew is well worth a visit at the present time. The first batches of *Hippeastrums* are strongly in flower, also forced Roses, Daffodils and other *Narcissi*, Tulips, Crocuses, *Cyclamens*, Azaleas, Camellias, *Prunus sinensis* fl.-pl., *Staphylea colchica*, *Coleus thyrsoideus*, Acacias, Wistarias, Hyacinths, *Primula obconica*, *P. sinensis*, Jonquils, *Lilium eximium*, *Clivias*, *Centropogon*, Begonias, *Cytisus*, *Spiraea Van Houttei*, Callas, *Chorizemas*, Lily of the Valley, *Ericas*, *Epacris*, fruited Oranges, and many other things.

Shrewsbury Fruit, Plant, and Flower Show.

The twenty-eighth great annual floral fête of the Shropshire Horticultural Society will be held in The Quarry, Shrewsbury, on Wednesday and Thursday, August 20 and 21 next, when cash prizes amounting to nearly £1,100 will be offered. There is a Silver Challenge Vase for Grapes, value fifty guineas, besides five Silver Cups, gold and silver medals, and other valuable prizes. The honorary secretaries are Messrs. H. W. Adnitt and W. W. Naunton, The Square, Shrewsbury, who will forward schedules to those interested. We are obliged to hold our report of the annual general meeting of this society.

Liverpool Grain, Root, and Fruit Show.

After a period of six years' faithful service, during which the society has assumed a position of the greatest importance, the joint hon. secretaries, Messrs. Robert Mawdsley and Austin Peppin, announce their intention of resigning their position, each being 77 years of age, but yet taking the keenest interest in the affairs of the show. The annual report states that the entries last season were 1,113 as against 1,080 in 1900, the prize money distributed amounting to £116 4s. 6d., the subscriptions to £173 2s. As usual, there will be a capital prize list arranged, the special prizes at present announced being greatly in advance. A hearty vote of thanks was tendered to Robert Blezard, Esq., Pool Park, Ruthin, for the use of the site on which the show was held, also to the numerous judges for their arduous task at the recent show.—R. P. R.

Crocus marathonsius.

Through one of the typographical errors which happen but seldom in the Journal, I find that the name of this Crocus, referred to by me in the issue of last week, appeared as *marathoniscus*. I wrote *marathonisens*, the spelling adopted by Mr. George Maw, but I find that the spelling given by the "Index Kewensis" is *marathonsius*. One of my correspondents, who is recognised as an authority upon these matters, kindly informs me that the proper specific name for this Crocus should be "*marathonus*," from Marathon, in Greece, though, of course, it is difficult to alter a name once given by a botanist in this respect. Probably Heldreich's spelling of "*marathonsius*" will thus have to stand.—S. ARNOTT.

Vegetable Drying in Worcestershire.

At a meeting of the Kidderminster Horticultural Society on Wednesday, February 12, Mr. Arthur Goodwin produced specimens of vegetables which had been dried by a new process at Northington, and which he said had been submitted to Government authorities for inspection, and had been regarded as entirely satisfactory. He mentioned that the War Office had to place very large contracts with foreigners for dried vegetables for the soldiers, and he regarded it as a matter of very great importance to fruit and vegetable growing districts such as those of Worcestershire that there should be some method of drying, and it was now claimed that the drying of fruit and vegetables could be combined with an improved method of Hop drying. The specimens were examined with much interest by the large number of horticulturists present.

Birmingham Gardeners' Association.

"The Palm, and its Uses Commercially," was the subject given by Mr. G. Sidwell, Sutton Coldfield, on the 10th inst. Mr. W. B. Latham occupied the chair. Included in the several kinds of Palms noted for their economic properties, the Oil Palm (*Elaeis guineensis*), and samples manufactured products in bottles, also stearic candles and palm oil soap served as illustrations of products to which this Palm is amenable, whilst the Cocoa-nut Palm (*Cocos nucifera*) was similarly represented in the shape of a fruit (drupe), with the nut enclosed, and such as coir, cordage, &c., with also a description of the multifarious uses afforded by the Cocoa-nut. The edible Cabbage Palm (*Areca oleracea*), of the West Indies, was also particularly mentioned. In the discussion that followed, reference was made for the present comparative scarcity of cocoa-nut fibre suitable for horticultural purposes, but for what reason no particular cause was assigned. A cordial vote of thanks was accorded the lecturer.—W. G.

Prizes for an Essay.

Mr. P. Murray Thomson, S.S.C., secretary of the Royal Caledonian Horticultural Society, draws our attention to a prominent class, with attractive monetary prizes attached, of which particulars are furnished on page 38 of the schedule. The first award carries £5; the second £3; and the third £2 (open to all). In the event of the first prize essay proving of particular merit, the prize will be increased to £7. Thus: "For the best essay on the lasting qualities, the preservation and arrangement of different flowers, foliage, and plants in a cut state in water, in either town or country, and in the town distinct from the country; including a statement of the conditions of age, growth, weather, &c., for, and the methods of cutting such flowers, foliage, and plants, and their treatment afterwards, so as to last well; a description of the injurious effects of some on others when placed together in water; and suggestions as to their arrangement so as to show them to the best advantage, having regard both to economy and beauty." The prizewinners are Mr. and Mrs. J. Martin White, Balruddery, Dundee, both of whom are famous in the North for their love of gardening and flowers. In his letter Mr. Thomson adds: "If there is good results from this competition, I am sure Mr. Martin White will go on to prove a good friend to horticulture." He has, indeed, signified his intention to offer considerably increased prizes next year, in the event of the competition this year being well taken up and proving useful. Each essay must bear a motto, and be accompanied by a sealed envelope bearing the same motto, and enclosing the competitor's name and address. All essays for this competition must be in the hands of the secretary not later than August 1, 1902. The prizewinning essays are to be the property of the Society. The secretary's address is 5, York Place, Edinburgh.

Midland Carnation and Picotee Society.

The eleventh annual report of the above is published, showing a balance in hand of £18 8s. 6d. The exhibition for 1902 will be held at the Botanical Gardens, Edgbaston, Birmingham, on July 30 and 31. Unfortunately Mr. Cartwright finds he is unable to continue the management of the society, and Mr. Sydenham, Tenby Street, Birmingham, has at the special request of the committee, again kindly undertaken this task for 1902, but only upon the consideration that Mr. W. Parton, jun., of King's Heath, has promised to take up the work in 1903.

Auricula and Primula Society.

The annual report for 1901 (southern section) has come to us from Mr. T. E. Henwood, Auricula Villa, 16, Hamilton Road, Reading. This shows a balance in hand of £21 13s. 6d., as against £19 17s. 6d. last year. Eleven new members joined during last year. To ensure the continued prosperity of the society, it now remains for the members to bring in new recruits to fill the vacancies that must inevitably occur every season. It is not considered necessary to hold an election of the best variety of Auriculas and Primulas, now that a list of the winning flowers is published in the annual report, this being considered the best and most reliable guide to refer to.

Our Farm Page.

The Editor invites the attention of nurserymen and horticulturists who produce crops for market to the citations furnished this week in our Home Farm Page in the article entitled "Excessive Railway Rates." The grievance is no new one. What is surprising is that a remedy should not have been attempted (or shall we say extended?) long ago. We agree that water transit is not nearly so costly as by rail, and that some of the railway companies show a desire to assist producers: yet, with cheapened rates, how greatly could rural industries be stimulated! The companies would lose nothing (rather the opposite eventually), and both producer and consumer would benefit.

Who can Sketch a Garden Plan?

The question is addressed to under gardeners only. Sir John Gilmour, Bart., of Montrave, N.B., through the Royal Caledonian Horticultural Society, is offering two prizes—a first of £3 and second of £2, the society providing a third of £1—for a sketch-plan of a garden. Money prizes are generally more satisfactory than medals, yet we remember how keen were the competitions for the medals a number of years ago, when the inducements were furnished by the Scottish Horticultural Association. We hear that a number of under gardeners are busy preparing plans for the present competition. The experience gained we know will, during life, be reflected upon with feelings of the deepest satisfaction. Vide pages 22 and 23 of the R.C.H.S. schedule.

Glasgow Botanic Gardens.

On the 15th inst., at a Corporation Saturday Evening Lecture, Professor F. O. Bower, of Glasgow University, gave a very interesting and instructive paper on the Glasgow Botanic Gardens. Before proceeding with his subject proper, he remarked, first, that an exhaustive collection of plants and shrubs placed together, as far as practice would allow, in their different natural orders, and, second, that all should be correctly named, was his definition of what a botanic garden ought to be. A library, laboratory, and museum were required to sustain it from a scientific point of view, but these were not in Glasgow, and he had not very bright expectations of them being added, either. He gave a short but clear description of the Gardens from their beginning in 1818 till 1841, during which time they were "second to none" in Britain or even in Europe. Sir William Hooker was then responsible, and that, he said, explained the reason of their prosperity. From the year 1841, when Sir William left for Kew, till 1881, the Gardens gradually fell back, when the Corporation stepped in and relieved the company from their difficulties. He thought that too many duplicates of plants were grown in the Gardens at the present time, mentioning at the same time that, in his opinion, he did not think it a proper place for an annual display of *Chrysanthemums*, as has been held of late years. He hoped and expected that more attention would be given to the botanical side, rather than to the growing of plants and flowers for ornamentation, under Mr. Whitton's charge. Throughout the lecture, limelight views were shown of a tropical botanic garden in Java, an American botanic garden, Kew Gardens, and Edinburgh and Glasgow Botanic Gardens.—A. B.



Hardy Annuals.

In the list of hardy annuals which follow I have selected those which are adapted for supplying quantities of cut flowers suitable for tall glasses or vases. And to those gardeners who have to supply quantities of cut flowers my remarks will apply more directly. By many growers annuals are considered to be so cheap that they are not worthy of cultivation, but one can surely claim on behalf of annuals a good display of flowers during the summer months, with labour and expense in their production reduced to a minimum compared with such as bedding plants. I think all will agree with me that labour and expense are important factors in gardening. The ground intended for annuals should be deeply dug and thoroughly manured the previous autumn. The end of March is a good time for sowing the seed, if the ground is dry and in a workable condition. Annuals may be grown in bold clumps or lines. The most important matter in the culture of annuals is early thinning. Herein lies the secret of success. I find it a good plan to start thinning when the plants are a few inches high, and keep thinning the plants as they touch each other until you have them the necessary distance apart. By doing so you build up a sturdy growth, and when it comes to the final thinning it causes no disturbance to the soil and roots of the permanent plants. In gardens exposed to the westerly winds it will be necessary to stake the Cornflowers and the last three in my list:—*Lavatera resea splendens*, 3ft; *Lavatera alba splendens*, 3ft; Cornflower, blue and white, 3ft; Malope, red, white, and rose, 2ft; *Lupinus hybridus atrococcineus*, 2½ft; *Clarkia*, Sutton's Crimson, 2ft; *Clarkia*, Sutton's Salmon, 2ft; *Godetia*, Sutton's Double Rose, 2ft.

The last two annuals are worthy of a place in every garden where long sprays of delicate-coloured flowers are in demand.—W. KEAY, St. Andrews, N.B.

Apricot Blossom Protectors.

Regarding a recent inquiry anent frigi domo canvas for the protection of Apricot or other wall-trained fruit trees when in flower, I may say that the curtains as employed at Weston House (see page 535 last volume) for walls about 14ft high measured 12ft by 12ft, though a lesser depth would answer as well. They were supplied by the manufacturers, Messrs. B. Eddy and Son, Torleven Works, Porthleven, Cornwall, whose advertisement in the *Journal of Horticulture* would be of considerable service to growers of fruit trees, also to those requiring other kinds of protective material in the way of canvas, netting, &c. The material can be had in widths of six, nine, and twelve feet respectively, at 2s., 3s., and 4s. per yard run. The firm named can supply the 12ft by 12ft curtains joined up in pieces at 12s. Carpet binding was sewn along the top side of the curtains. To render the wire by which the curtains are hung as taut as possible screw-pins were attached to one or both ends of the wire, and finished with a "nut." This is the neatest and best mode, and by attaching hooks instead of rings to the curtains, the wires never need be detached. But in the case of iron rods for the curtains either may be used, as one end of the eyed rod can be readily lifted from its hooked bracket. Each end of the curtain should also be furnished with tape loops for attaching it to the poles slightly sunk into the gape, and the top end fastened beneath the coping of the wall. When the curtains are not required to be kept drawn over the trees they can be easily tied to the sloping poles. There are, of course, many expedients employed for the protection of wall fruit trees against frost when in flower, but, as far as my own experience goes, nothing surpasses, both for efficiency and durability, either frigi domo (a woollen fabric) on the somewhat cheaper and equally durable matter, Hessian canvas; and both of which, with ordinary care, will last serviceable for about twelve or fourteen years. I have, however, a prejudice in favour of frigi domo, and it is so far permissible to the daylight that I have kept it stretched over Apricot, Peach, and Nectarine trees for weeks together during the periods of sharp frosts and cold, windy weather. By a judicious manipulation of the curtains for the tempering of cold east winds during the early stage of the expansion of the foliage of Peaches and Nectarines, what is known as "Peach blister" has been averted, more especially, too, if a strip of the canvas, or any other suitable material, was at each end of the curtain, or series of

the same, so as to exclude the full force of the wind, and also lessen the strain of the current against the curtains. The coping of board, mentioned on page 139, by Mr. W. J. Murphy, is also very serviceable against frosts.

At the risk of being considered tedious, I also remark that one of the most primitive appliances for the object in question prior to the advent of the materials already mentioned, or other similar fabrics, fish netting, or branches of evergreens, such as the common Laurels, Spruce Fir, Yew, &c., was safely used. Moreover, where a comparatively thick covering of the evergreens are used, and obliged to be retained during long periods of adverse weather, a considerable amount of discretion is required, so as not to expose the embryo fruit and foliage too suddenly afterwards to cold winds or cold nights. Otherwise, good crops of fruit may be secured from the foregoing makeshift appliance.—W. GARDINER.

Jackdaws Nesting.

In "An Observer's Notes," reference was made to the date (February 17) of the jackdaw commencing to build its nest. It may also be interesting to remark that a pair of these birds were observed to mate and select a spot for nesting in the hollow broken arm of an Elm tree in the parish churchyard of Harborne about a month ago, and, by certain actions of the pair, it is presumed that the hen is sitting at the present time. I may add that I have myself been an interesting observer of the proceedings of the pair in question, and have been informed by the gravedigger that the hole in the broken branch is so small and deep that he wonders how they managed to construct the nest, and to incubate therein with ease. The site has been located by the "daws" for several seasons past, and it has been contested for as the "laager" of house sparrows, but without avail. Jackdaws will go 6ft into those drainage holes or openings one sees in the sides of retaining walls or bridges.—W. G.

American v. English Chrysanthemum.

I was much interested in the letter published in the *Journal* of January 2 *re* Mr. Godfrey and our American cousins on the matter of Chrysanthemum raising. I did not have the pleasure of reading Mr. Godfrey's letter, which seems to have upset some of the American trade growers, and I personally have not had the pleasure of seeing one of their exhibitions in the States. No doubt their methods in some instances are better than ours. There is room for improvement in that, I will admit; but when it comes to seedling varieties (not sports) I think the British seedling Chrysanthemums raised during the last ten years compare very favourably with any we get from the United States or America. Taking into consideration the climate, then, I think we hold our own. In the first place our climate is very bad for saving the seed, and there are not so many trade growers saving seed in England as there are in the United States. I believe Mr. Godfrey is the only one in England that saves seed to any extent; the other British raisers are gardeners in private service. If we carefully look over our list of Japanese and incurved varieties we can find good varieties of both, standing the test of time, such as Mrs. Weeks, Florence Molyneux, Mrs. White Popham, and numerous others; also such incurveds as C. H. Curtis, Hanwell Glory, Lady Isabel, and Mrs. Egan. When one stops to think, I, for my part, cannot quite see where the American raisers pass us quite as they try to make out. I consider our standard of excellence quite equal to theirs, if not a little better; for it is some years now since I have seen a really good new Chrysanthemum come from America. If our raisers will continue to send out only good varieties (not too many in a season) I think we shall still hold our own. I also notice Mr. Totty says if we get one good one out of twenty we ought to be satisfied. I must differ there, for if I buy in twenty new varieties in a season I should certainly expect more than one good one. Take, for instance, some of the British-raised seedlings of last season—George Carpenter, Lily Mountford, Mrs. J. J. Thorneycroft, Nellie Southam, Louisa Giles, Frank Hammond, Ralph Hatton, May Bell, and others that are good; and what of these? Then, again, what of the magnificent varieties sent out by Messrs. Wells and Co., mostly raised by Mr. Pockett? Then we have Messrs. Brunning and Kerslake; also again this season some grand varieties from Messrs. Godfrey, Weeks, Molyneux, &c. No, Mr. Editor, I think it is America now that is being met and passed by the English raisers. One other remark I should like to make in respect to showing them with 5ft or 6ft of stem. I notice now the English-raised varieties are very dwarf, plenty of them only about 4ft or 5ft in height. I don't think our home raisers need blush, as our cousin, Mr. Totty, thinks we ought to.—A. W. T.

County Council Gardening in the Isle of Wight.

We have received from Mr. C. Martin, Horticultural Instructor to the Isle of Wight County Council, a report (already printed in the "Isle of Wight County Press") of the crops grown in the County Council Garden during the summer and autumn of 1901. It is as follows:—"To the Technical Instruction Committee of the Isle of Wight County Council. Gentlemen,—I beg to present the following report upon some of the crops grown in the County Council Garden during the summer and autumn of 1901.

Strawberries—Raspberries—Currants—Gooseberries—Grapes.

"Out of twenty-four varieties of Strawberries grown, Royal Sovereign may be safely considered the best for those who have only a limited space, or require but one variety; it is a sure cropper, solid fruit of good flavour, and stands the climate well. Beds require renewing after three years; if left longer the fruit produced will be very small.

"Raspberries have done well this season, and under proper cultivation are a most profitable fruit to grow; unlike many other crops the supply scarcely ever exceeds the demand. Island fruit growers will do well to observe this. Grown side by side with twelve other varieties, Superlative has proved to be superior in every respect—intending cultivators should not fail to include this variety in their selection. The total yield of fruit from the bed 83ft long by 17ft wide was 1½cwt. Those who grow for market will find there is very little demand for yellow fruit. Currants which have done best are Baldwin's Black, Black Champion, and Lee's Prolific. Of red varieties the most profitable were Raby Castle and Fay's Prolific. White varieties are most useful for dessert, but are not in great request on the market.

"Out of some thirty varieties of Gooseberries tested under the same conditions, Whinham's Industry (red) and Whitesmith (white) may be safely relied upon for market or other purposes. All should be grown on trees with from 9in to 1ft leg to produce clean fruit, and also to assist cleaning the land.

"Out of six varieties of Grapes grown in an intermediate structure, Frankenthal Hamburgh and Black Hamburgh were the most prolific. It being the first year of fruiting, each of those varieties produced 13lb of fruit on 3ft 6in of rod.

Tomatoes—Onions—Celery.

"Tomatoes have been grown largely in the garden, both inside and out. For early work inside they were grown in very narrow boxes similar to a trough, each plant being allowed about one square foot of soil; results very satisfactory. At the commencement of ripening we gathered over 40lb of fruit in fourteen days from twenty-four plants; variety, Free Setter. For successional crops inside, Sutton's Best of All, Perfection, and Earliest of All were grown; all did well, but Best of All proved the most useful, producing smooth, sizeable, heavy fruit. Perfection is a good exhibition Tomato, producing well-developed fruits just under 1lb each, but far too large for market purposes. Earliest of All does great service in any collection, as it matures quickly, though the first fruits are slightly corrugated, but at the second and third truss smooth and even fruits are produced. My experience proves that root restriction is far preferable to planting out in borders for early work. The number of plants grown in the open air were about 200, planted 2ft from plant to plant and 3ft from row to row; part were planted as early as April 27, the second batch on May 11, and the remainder on June 6. The earliest planted grew to the height of 6ft, fruiting well to the top, proving that plants grown from the first, sturdy and well hardened, may be planted out much earlier than many imagine. The total weight of fruit from all Tomato plants grown in the garden amounted to about 10cwt. Both the varieties, Free Setter and The Cropper, did remarkably well in the open; also Sutton's Earliest of All. Very little artificial watering was resorted to, but mulching played a prominent part, bringing the roots to the surface, producing steady growth, and in a higher temperature.

"About twelve or fourteen varieties of autumn sown Onions were tested, but taking into consideration the fact of a large percentage running away to seed, and the bad keeping qualities of others, my advice to those who have the convenience, is to sow very early in the spring instead of in boxes, and transplant in April.

"Celery of the two well-known varieties, Sandringham White and Major Clarke's Red, were grown in double rows, sown early, and brought on in boxes; excellent sticks were produced, which soon found a ready sale. No liquid watering was done, but basic slag and superphosphate applied to the land at planting time.

Chrysanthemums and Begonias.

"Early flowering varieties planted in the shrub border were a great success, filling a gap just as all other outside varieties

of flowers were on the decline. Queen of the Earlies (white) and Golden Queen of the Earlies (yellow) were excellent. Notore Groiz (a fashionable pink), Ivy Spark (yellow), and Ambrose Thomas (bronze), all grown on the natural system without disbudding, make useful decorative material for amateurs, as the bulk of the flowers open long before the early frosts appear. Over 100 autumn flowering varieties were grown in pots in about fifty distinct sorts, part on the exhibition style, part on the dwarfing or grouping system, and the remainder on the decorative principle without disbudding. The selection included Japanese, Japanese incurved, incurved, and a few of the spider-web section. Propagated in January, and potted on into 6in pots the first week in March and stood in the open air, they withstood 13deg of frost several nights in succession, proving that good flowers may be obtained from plants grown much harder than is often the case. The much-dreaded rust appeared in the collection the first week in September, first attacking the variety Hairy Wonder; as the plants continued to ripen and mature it began to spread rapidly throughout the collection. Various remedies were tried to eradicate the pest, but none proved absolutely effectual, nor could be considered a success. I hope to report further upon this later on. One peculiar characteristic of this fungus is that the individual flowers do not appear to be in the least injured by it, only the foliage. For instance, the variety upon which it first appeared and played such havoc produced well-developed flowers of that particular variety. Late spring propagation I believe to be most advantageous to the amateur and cottager, for small greenhouse or window work, and confined to a 6in pot; excellent flowers were grown in this way.

"We have at present a small batch of the fast becoming popular Gloire de Lorraine Begonias just coming into flower; invaluable for winter work where an intermediate temperature can be maintained. Should be propagated from cuttings in the spring.

Fruit Trees.

"Fruit trees at this season of the year should be treated in some way to prevent the ravages by various insect pests, which otherwise do considerable mischief. It is recommended by the Board of Agriculture to use for this purpose a wash known as caustic alkali wash, which is prepared in the following manner: Dissolve 1lb of commercial caustic soda in water, then 1lb of crude potash in water; when both have dissolved mix the two well together, then add ½lb of agricultural treacle, stir well, and add sufficient water to make ten gallons. Care should be taken in spraying the trees, as the wash has a burning effect on the skin.—C. MARTIN, Horticultural Instructor."

Some Typical Gardens.

II.—The Rectory.

There is a mystic bond that unites the clergy of the Established Church with horticulture. Perhaps the fact that every country parsonage is surrounded by a garden is largely accountable for it, because gardening provides a pleasant means of entertainment for the cultured mind. At any rate, the fact remains that parsons as a whole are a family of gardeners. Many of them are specialists, and their names are well known as champions of the Rose, the Daffodil, the Dahlia, and many another flower. Lest I should be misunderstood, let me state here that my typical rector is not a specialist in the strict sense of the word, but he is a gardener all the same, possessing a true love for horticulture in its highest sense, and treating his garden as something belonging to his church and his parish, almost as much as to himself.

There is an air of natural seclusion about the rectory. From the road there is nothing to be seen but a belt of evergreens, and a modest pair of gates set in the wall. You might pass by a score of times without knowing that there was a habitation inside; but by entering through the gate and following a narrow, winding walk you find yourself at the front, which, to use an Irish expression, is situated at the back. A well-trodden path leads from the front door, through the shrubbery, by the end of the kitchen garden, to a little wicket gate which opens into the churchyard, and then it meanders on again between the moss-covered tombstones to the little door opening into the vestry. That is the rector's walk. Few people but he and the members of his household use it, and so long has the good man trodden it, that the marks of his footsteps may be faintly discerned all the way.

I cannot describe the architecture of the rectory, for several reasons. In the first place there have been so many little bits stuck on from time to time that the original is almost lost; and then the whole front and the verandah is such a mass of creepers and trailing plants that the work of the builder is hidden. But it is a homely spot. The roof is rambling and low, the windows overlook the lawn, and a piece of glebe land beyond, and a peep through the glass doors, which seem made to stand open, reveals an interior as homely and comfortable as a house can well be. The rector is proud of his garden, but it is not a selfish pride. On certain days the gates are thrown open, and a welcome is extended to every person in the parish, without regard to sect or creed. Curious things have happened on these occasions. Men who held aloof from church have gone to see the rectory garden, and, when chatting about his flowers

provides the flowers that are placed by sorrowing parishioners on freshly made mounds in God's-acre close by if they have neither garden nor flowers of their own.

You wonder why the rector grows great masses of certain conspicuous flowers—white Lilies, scarlet Zinnias, and others. You need not wonder long; they are for the decoration of the old church on festive and holy days. About this the gardener has a grievance of his own. Not a serious one, perhaps, but the rector will insist on encroaching further and further on the vegetable domain for his flowers, that the old man runs his fingers distractedly through his scanty grey hair, and wonders "where th' parson thinks he's goin' to grow stuff for th' kitchen when every inch of th' garden is full o' flowers."

Now and then little notes are sent out to interested parishioners when there is anything special in flower, and



View in the Public Park, Newport, Mon. (See references in text, page 170.)

the owner has led up to the matter dearest to his heart, and the following Sabbath one more seat in the old church has found a tenant.

In the absence of the rector a walk through the garden is destitute of a great charm, but with him it is a treat. He is no greenhouse gardener, and the whole glass accommodation is a single structure that was erected to satisfy the needs of the grey-headed factotum who looks after the establishment, digs the graves, tolls the bell, and sounds the "Amens" in the neighbouring church. I have said that the rector is no specialist; nor is he, unless it be that he makes a speciality of many things, for his ideas are as broad as his religious views. He loves his flowers for their own sakes, as well as for the uses to which they can be put. The village maiden about to tie the sacred knot at the altar in the church has only to ask for the needful for her bouquet and she receives. In the same way the rectory garden

those are the times to find the rector's enthusiasm at its height. Like many a brother of the cloth, the old gentleman has a weakness for Roses, and a sheltered part of the garden is devoted to them. No bloom from his plants has ever graced a show board, but the rector's collection is no ordinary one. He knows every flower by name, and the eagerness with which he watches the unfolding of the petals of a new variety marks him as a rosarian. Up-to-date he is in regard to Roses, but without discarding the older loves. When a new variety arrives room has to be made for it, but not at the expense of doing away with an old friend; and this is the gardener's bone of contention. Just when the Roses are in flower the parson arranges for the annual school treat, on which occasion the garden is public property; and while the youngsters are enjoying their games in the field in front, the rector may be seen in the midst of his Roses, with a crowd of fathers and mothers round him, preaching a sermon

from Nature that is listened to as eagerly as any of his discourses in church.

Dreariness is almost unknown in the rectory garden. In the winter it is, of course, more gloomy than usual, but even then there is a brightness about the berries on the Holly trees in the shrubberies, and the tree of *Crataegus pyracantha* that covers one end of the house. But as soon as Nature allows it, young green growths appear above the ground in a score of spots, and, in due course, the rectory garden is a place of nodding Daffodils. They form one of the good man's loves, and his collection is a comprehensive one. The simple Snowdrops mark the opening of the floral year, and the garden is never dull after that. Annuals, herbaceous plants, Roses, Dahlias, and Chrysanthemums—they all have a place in the garden, a little jumbled up, maybe, and perhaps the critic would say overcrowded, but the rector says that he does not profess to be a gardener, and the old man who acts in that capacity excuses himself on the grounds that he cannot have his own way. "Ah! the garden would be a place of Cabbages and Potatoes only if you could," is the rector's reply, and the discussion ends.

In the kitchen garden the factotum may be said to rule, and it was a sore trial to him when the rector took a fancy to Cactus Dahlias, because, in spite of protests and threats of resignation, he would insist on growing them on the border that for years had been sacred to early Potatoes. But the master had his way, and his collection is the envy of every Dahlia grower in the parish. At least it was, but some of his best varieties are dispersed about, and may be seen in several other gardens in the district. In most things he has confidence in the gardener, but cannot trust him with labelling the Dahlias, so the rector does it himself; and when the frost has put an end to the flowers in the autumn master and man may be seen busily employed in taking up the tubers and storing them inside the capacious barn that provides room for everything that has to be stored, and then is not half full.

I am tempted to dwell a moment on the old rambling, timber-built structure near the rectory. It is the ancient tithe barn, where the tenth sheaf of the farmer's corn used to be stored away in the days when these dues were paid in kind. That order of things has passed away, but the barn remains, thanks to its sturdy timbers and repeated coatings of tar, and serves the useful purpose of storehouse for the Dahlia tubers and other produce from the garden.

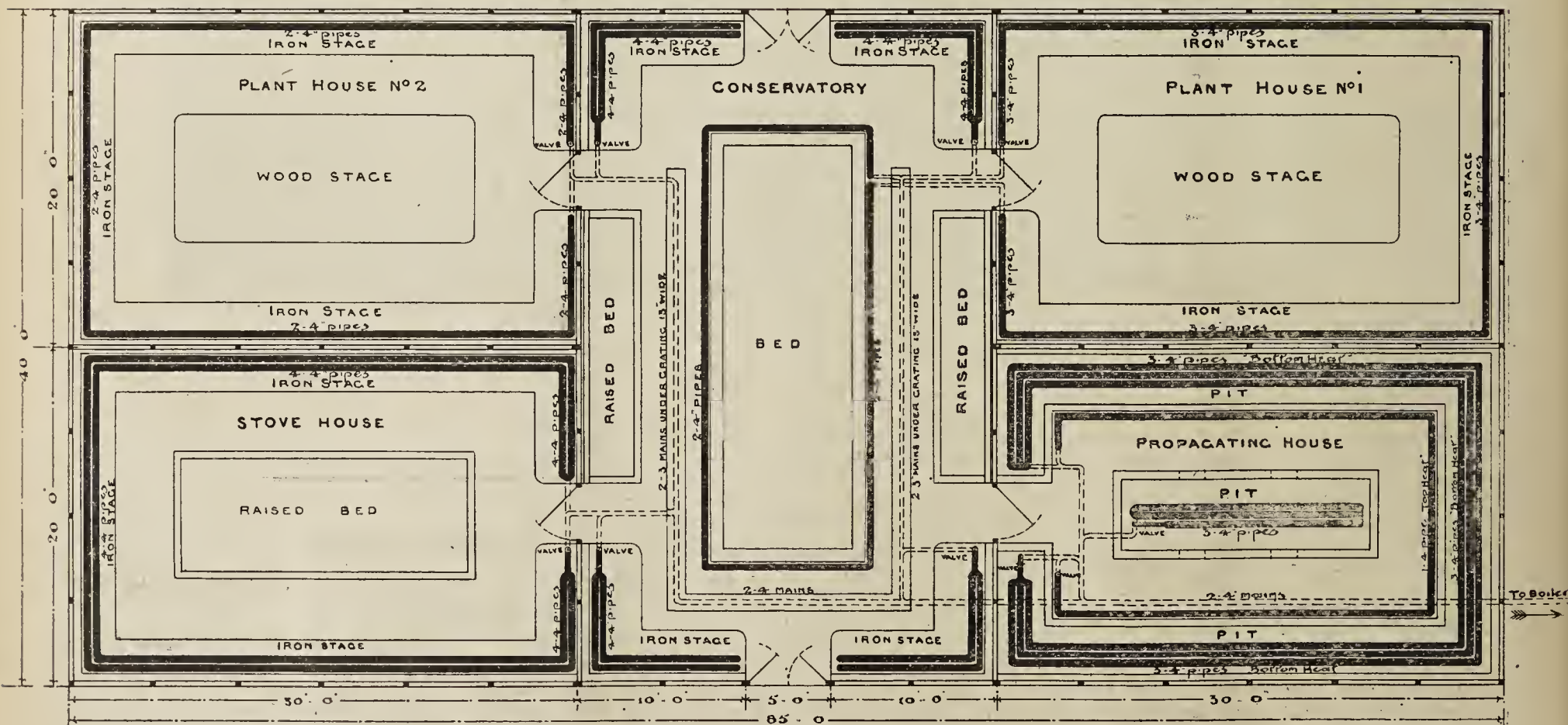
There are fruit trees in the rectory garden, but never much fruit if the gardener's testimony be correct; and he says "it's all on account o' them dratted birds that pick the

buds from the bushes and devour the fruit afore it's ripe; but it's no use o' talkin' to th' parson." This is another of the old gardener's worries, and when you walk round with the rector in the summer he will peer into the branches of an espalier Apple tree, presumably for the purpose of showing you a fine fruit, but it is only to reveal the presence of a little bird's nest. He loves the feathered tribe even to the mischievous sparrow, and smiles when the gardener complains of the damage they do. "Never mind, John, we won't destroy them," is the reply which affords little comfort to the gardener, who does not share his employer's sympathy. But the birds add some charm to the garden, particularly in the spring, when the song thrush welcomes the dawn from some tree top, or, in the stillness of the night, when copse and garden ring with the sweet, thrilling music of the nightingale.

Such is the rectory garden, such is the rector himself. The former is old-fashioned, the latter belongs to an ancient school—simple, conscientious, sympathetic, and loveable. Perhaps you know such a garden and such a man. Examples of the former exist in many a country village, and, happily, parsons of the type described are not un plentiful. Long may he live, for there will be a day of real mourning in the parish when the time comes for him to be gathered to his fathers and the rectory garden knows him no more.—
A BRITISH RUSTIC.

The Construction of Glass Ranges.

On three of our pages this week we bring to notice by means of illustrations, forms of conservatory and hothouse construction that commend themselves from various points of view. On page 169 will be seen the architectural character adopted by Messrs. Richardson and Co., of Darlington, in building two adjacent conservatories to a previously existing structure in the Public Park at Newport, Monmouthshire. Then, on other pages (170 and 171) are shown respectively the interior arrangement and heating apparatus of the range of glass houses newly erected by the same firm for the Horticultural College authorities at Swanley, in Kent. The general idea of the Swanley range is that everything is so compact, and there only being two outside doors, no heat is lost, as is the case with doors opening to the outside atmosphere in the ordinary way. The boiler which heats the range is a Terminal-end Chatsworth, fitted with two 6-inch cross tubes, having an actual heating capacity of 2,100ft of 4-inch pipe.



Ground Plan, showing interior arrangement of Range figured on page 171.

(The actual number of 4-inch piping in the range required to be heated is 1,900ft.) All the pipe joints are made with very best indiarubber rings, and are found to answer admirably. These are an advantage over the ordinary rust joint, as they can be taken to pieces at any time if required. Each hot water circulation is properly controlled by valves, so that the heat can be regulated to a nicety. All the roof and side ventilators are worked by simultaneous iron gearing, with levers placed in the most convenient positions. The iron staging is of Richardson and Co.'s special construction, with angle iron running all round, supported upon cast-iron legs of good pattern; the tops

of the stages are formed with galvanised corrugated sheets specially made for the purpose, with corrugations.

The plans, however, speak in their own favour. The idea of having only two doors for ingress or exit, and the houses all so compact, may be designated as uncommon, if not altogether new, and on this account should prove interesting to those who contemplate building on an economical plan. We learn from Mr. Eason Wilkinson, principal of the Swanley Horticultural College, that the houses are now being properly stocked, and a formal terrace garden is being laid out from the front of them down to the Rose garden that was planted a little over two years ago. It may interest old students to know that the old Mushroom houses running by the wall in front of the vineries, peacheries, and greenhouses have been renewed and converted into a suitable potting-shed.

With reference to the view of the two conservatories and band stand erected by Messrs. Richardson and Co. in Newport Public Park, we need only add that many other public parks throughout the kingdom could be much improved by the addition of such, or similar, conservatories as are shown on page 169. The new catalogue of the above firm may be had gratis by all who purpose the erection of glass houses.



Span-roofed Range of Plant Houses at Swanley Horticultural College.

A Distinguished Florist.

The death of Dr. Charles Stuart, Chirnside, Berwickshire, was announced in the daily newspapers of the 14th inst., though the exact date of his death and his age were not given; but, seeing that he and Mr. James Dobbie were competitors in the Pansy classes at Berwick-on-Tweed Flower Show about 1846, he must have reached a ripe old age. Dr. Stuart had been an enthusiastic florist all his life, and he was also an ardent naturalist. The Pansy was one of his earlier loves, but he pursued with considerable ardour the improvement of other subjects, and was the raiser of *Aquilegia Stuarti*, a dwarf-growing blue-flowered hybrid, which is, unfortunately, somewhat difficult to cultivate. Of late years Dr. Stuart had taken the Polyanthus in hand, and especially the gold-laced section, and had been successful in raising a few fine varieties, one or two of which at least were named, and probably distributed. Other hardy flowers were taken in hand by him and successfully cultivated and improved. But the main work of his life during the past thirty years was the development of the bedding Viola.

Dr. Stuart was most systematic in all his efforts. Every cross he made was from carefully selected parents, with a view to definite results. He may be said to have commenced in 1874 when he took pollen from a garden Pansy named Blue King, at

that time a popular bedding variety, and crossed *Viola cornuta* with it, a species the late Mr. John Wills had assisted to make highly popular. Something like a dozen seedlings resulted. They were all blue in colour, and they had a tufted habit of growth. A pink seedling Pansy was crossed on to the blue seedlings; the result was more variety in colour, but the same tufted habit. The most promising from this cross were sent to the Chiswick Gardens of the R.H.S., and an invitation was sent by the raiser to send the best of their productions, in order to afford a test by comparison as to how his seedlings would thrive in a southerly clime. When the plants were inspected by the Floral Committee of the R.H.S. in 1875 six First Class Certificates of Merit were awarded to some of them. Unfortunately the names of these plants do not find a place in the record of plants certificated at Chiswick between 1872 and 1884.

Later on, Dr. Stuart was advised to endeavour to eliminate the rays round the eye of the flower, but it was ten years before he found a perfectly rayless *Viola* among his seedlings. "In the year of the Queen's Jubilee, while walking round the seed-bed, I saw what I had been seeking for, in a pure white rayless self." It was propagated and named *Violetta*, a charming miniature *Viola*, very hardy, the perfume very sweet, almost resembling that of *Viola odorata*. By crossing *Violetta* on to a white self with a few rays, the well-known variety *Sylvia* was obtained. *Sylvia* crossed with a Peacock Pansy produced *Border Witch*, a singular flower, which, in its best dress, in moist weather, is very striking. In addition Dr. Stuart raised *Bridal Wreath*, *Blush Queen*, *Blue Gown*, *Florizel*, *Rosea Pallida*, and many others. The miniature section was the creation of Dr. Stuart. He gave refinement and high quality to the *Viola*, and the low-spreading tufted growth was always favoured by him. While on a tour in Ireland some years ago he found in Connemara a new species of hardy Heath, which the Botanical Society of Edinburgh named in his honour *Erica Lekalis Stuarti*.—R. D.

An Observer's Notes.

Under this heading there are many short interesting notes our readers might send.

FEBRUARY 21-27.

PLANTS DEDICATED TO EACH DAY.

Fri. 21	Lesser Periwinkle blossoms.	Common Daisy.
Sat. 22	Earthworms lie out.	Apricot.
Sun. 23	Ring-dove coos.	Royal Fern.
Mon. 24	Gooseberry leaves open.	Peach.
Tu. 25	Red Currant leaves open.	Lesser Periwinkle.
Wed. 26	Alder flowers.	Lungwort.
Thrs. 27	Crows commence nesting.	Purple Crocus.

Royal Horticultural Society's Committees.

1902-1903.

The objects of the committees are:—(1) To encourage the production of new and improved varieties of fruits, flowers, decorative plants, and vegetables, by examining and reporting upon the merits of such as may be submitted to them for the purpose. (2) To collect and disseminate trustworthy information respecting the adaptability of particular kinds of fruits, flowers, and plants to the varied conditions of soil, locality, &c., throughout the United Kingdom. (3) To report, for publication in the *Journal of the Society* (see "Arrangements"), on fruits, flowers, plants, and vegetables grown in the Society's Gardens at Chiswick, for the purposes of comparison or experiment, and on objects exhibited at the meetings.

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- Champion, G. C., Horsell, Worthing.
- Chapman, H., Cambridge Lodge, Flodden Road, Camberwell, S.E.
- Chittenden, F. J., Technical Laboratory, Chelmsford.
- Church, Professor A. H., M.A., F.R.S., Shelsley, Kew Gardens.
- Cooke, M. C., M.A., LL.D., 53, Castle Road, Kentish Town, N.W.
- Darwin, Francis, F.R.S., Wychfield, Huntingdon Road, Cambridge.
- Dod, Rev. C. Wolley, M.A., V.M.H., Edge Hall, Malpas, Cheshire.
- Douglas, James, V.M.H., Great Bookham, Surrey.
- Druery, C. T., F.L.S., 11, Shaa Road, Acton, W.
- Duncan, F. Martin, 1, Crescent Road, South Park, Reigate.
- Ellacombe, Rev. Canon. Bitton, Bristol.
- Elwes, H. J., F.R.S., V.M.H., Colesborne, Andoversford, Glos.
- Englehart, Rev. G. H., M.A., V.M.H., Apple-haw, Andover.
- Farmer, Prof. J. B., M.A., Royal College of Science, South Kensington.
- Godman, F. DuCane, F.R.S., 10, Chandos Street, Cavendish Square.
- Gordon, George, V.M.H., Endsleigh, Priory Park, Kew.
- Groom, Professor Percy, F.L.S., Hollywood, Egham.
- Hartog, Professor, D.Sc., M.A., Queen's College, Cork.
- Holmes, E. Morell, F.L.S., Ruthven, Sevenoaks.
- Hooper, Cecil, Highlands, Swailey.
- Houston, D., F.L.S., Technical Laboratory, Chelmsford.
- Hurst, Captain C., Burbage Grove, Hinckley.
- Irwin, Thurn, E. F., C.B., 23, Edwards Square, Kensington, W.
- Lindsay, R., Murrayfield, N.B.
- Llewellyn, Sir J. T. D., Bart., F.L.S., Penllergaer, Swansea.
- Lynch, R. Irwin, A.L.S., Botanic Gardens, Cambridge.
- Massee, George, F.L.S., Gateacre, Sandycombe Road, Kew.
- Mawley, Ed., Rosebank, Berkhamsted.
- McLachlan, R., F.R.S., Westview, Clarendon Road, Lewisham, S.E.
- Michael, A. D., F.L.S., Cadogan Mansions No. 9, Sloane Square, S.W.
- Morris, D., C.M.G., M.A., F.L.S., D.Sc., Imperial Agricultural Department for the West Indies, Barbados.
- Müller, Hugo, Ph.D., F.R.S., 13, Park Square East, Regent's Park.
- Murray, George, F.R.S., Natural History Museum, S.W.
- Newstead, Robert, F.E.S., Grosvenor Museum, Chester.
- Nicholson, Geo., V.M.H., 35, Larkfield Road, Richmond.
- O'Brien, James, V.M.H., Harrow-on-the-Hill.
- Odell, J. W., The Grove, Stanmore, Middlesex.
- Oliver, F. W., D.Sc., F.L.S., 2, The Vale, Chelsea, S.W.
- Plowright, C. B., F.L.S., 7, King Street, King's Lynn.
- Rendle, Dr. A. B., Natural History Museum, S.W.
- Russell, W. J., F.R.S., Ph.D., 34, Upper Hamilton Terrace, N.W.
- Salmon, Ernest S., Charlton House, Kew.
- Saunders, Geo. S., 20, Dents Road, Wandsworth, S.W.
- Scott, D. H., M.A., Ph.D., F.R.S., F.L.S., The Old Palace, Richmond, S.W.
- Scott-Elliott, Prof. G. F., M.A., B.Sc., F.L.S., Ainslie, Scotstounhill, Renfrewshire.
- Shea, Charles E., The Elms, Foots Cray, Kent.
- Smith, William G., Ph.D., Yorkshire College, Leeds.
- Smith, Worthington G., F.L.S., 121, High Street, Dunstable.
- Sutton, A. W., V.M.H., F.L.S., Reading.
- Veitch, H. J., F.L.S., 34, Redcliffe Gardens, South Kensington.
- Ward, Prof. Marshall, F.R.S., Botanical Laboratory, Cambridge.
- Wilks, Rev. W., M.A., Shirley Vicarage, Croydon.
- Wilson, Geo. F., F.R.S., V.M.H., Heatherbank, Weybridge Heath.
- Worsdell, W. C., Jodrell Laboratory, Royal Gardens, Kew.
- Worsley, A., Mandeville House, Isleworth.

Fruit and Vegetable Committee (Established May 7th, 1858.)

- CHAIRMAN.—Bunyard, Geo., V.M.H., Maidstone, Kent.
- VICE-CHAIRMEN.—Balderson, H., Corner Hall, Hemel Hempstead; Pearson, A. H., The Gables, Huxton Road, Nottingham.
- SECRETARY.—Wright, S. T., R.H.S. Gardens, Chiswick.
- Basham, J., Fair Oak, Bassaleg, Newport, Mon.
- Bates, W., The Gardens, Cross Deep, Twickenham.
- Beckett, E., Aldenham House Gardens, Elstree.
- Blaker, Dr. E. S., The Cedars, East Grinstead.
- Cheal, Joseph, Lowfield, Crawley, Sussex.
- Coomber, T., The Hendre Gardens, Monmouth.
- Crump, W., V.M.H., Madresfield Court Gardens, Malvern.
- Dean, A., 62, Richmond Road, Kings on, S.W.
- Divers, W. H., Belvoir Castle Gardens, Grantham.

Fruit and Vegetable Committee (continued).

- Esling, H., Hillview, Croft Road, Carshalton.
- Fyfe, W., Lockinge Park Gardens, Wantage.
- Gleeson, M., Warren House Gardens, Stanmore.
- Goodacre, J. H., Elvaston Castle Gardens, Derby.
- Iggulden, W., North View, Frome, Somerset.
- Jacques, J., Waddesdon Manor Gardens, Aylesbury.
- Kelf, Geo., The Gardens, South Villa, Regent's Park, N.W.
- Lane, Fred. Q., Berkhamsted.
- Markham, H., Wrotham Park Gardens, High Barnet.
- McIndoe, James, V.M.H., Hutton Hall Gardens, Guisborough.
- Miles, G. T., Wycomb Abbey Gardens, High Wycomb.
- Mortimer, S., Rowledge, Farnham, Surrey.
- Nix, Charles G. A., Tigate, Crawley.
- Norman, G., V.M.H., Hatfield House Gardens, Hatfield.
- Parker, R., Goodwood Gardens, Chichester.
- Pove, W., Highclere Gardens, Newbury.
- Poupar, W., Marsh Farm, Twickenham.
- Reynolds, G., The Gardens, Gunnersbury Park, Acton, W.
- Rivers, H., Somers, Sawbridgeworth.
- Smith, James, V.M.H., The Gardens, Mentmore, Leighton Buzzard.
- Thomas, Owen, V.M.H., 25, Waldeck Road, Ealing.
- Veitch, J. H., King's Road, Chelsea.
- Veitch, P. C. M., J.P., New North Road, Exeter.
- Ward, A., The Gardens, Godinton, Ashford, Kent.
- Willard, Jesse, Holly Lodge Gardens, Highgate, N.
- Woodward, G., Barham Court Gardens, Teston, Maidstone.
- Wright, H. J., 32, Dault Road, Wandsworth, S.W.
- Wythes, G., V.M.H., Syon House Gardens, Brentford.

Floral Committee (Established June 24th, 1859.)

- CHAIRMAN.—Marshall, William, Auchinraith, Bexley.
- VICE-CHAIRMEN.—Paul, George, V.M.H., Cheshunt; Shea, Charles E., The Elms, Foots Cray.
- SECRETARY.—T. Humphreys, R.H.S. Gardens, Chiswick, W.
- Bain, W., The Gardens, Burford Lodge, Dorking.
- Barnes, N. F., Eaton Gardens, Chester.
- Barr, W., 12, King Street, Covent Garden, W.C.
- Blick, Charles, The Warren, Hayes Common, Beckenham.
- Cook, E. T., 24, Addison Road, Bedford Park, Chiswick.
- Cutbush, H. J., Highgate, N.
- Cuthbertson, W., Orpington.
- Dean, R., V.M.H., 42, Ranelagh Road, Ealing, W.
- Dixon, C., Holland House Gardens, Kensington.
- Druery, C. T., F.L.S., V.M.H., 11, Shaa Road, Acton, W.
- Fielder, C. R., The Gardens, North Mymms Park, Hatfield.
- Fitt, J. H., The Frythe Gardens, Welwyn.
- Fraser, John, F.L.S., 4, Willow Cottages, Kew.
- Gordon, G., V.M.H., Endsleigh, Priory Park, Kew.
- Howe, W., Park Hill Gardens, Streatham Common.
- James, W. J., Woodside, Farnham Royal, Slough.
- Jefferies, C., Boston House Gardens, Brentford.
- Jenkins, E. H., Queen's Road, Hampton Hill, Middlesex.
- Jennings, J., Ascott Gardens, Leighton Buzzard.
- Jones, H. J., Ryecroft, Hither Green, Lewisham.
- Ker, R., Wilson, Basnett Street, Liverpool.
- Knowles, C. W., Bagshot Park Gardens, Bagshot.
- McLeod, J., Dover House Gardens, Roehampton.
- Mawley, E., Rosebank, Berkhamsted.
- Molyneux, E., V.M.H., Swantonmore Park, Bishop's Waltham.
- Nicholson, G., V.M.H., 25, Larkfield Road, Richmond.
- Nix, John Ashburner, Tilgate, Crawley.
- Notcutt, R. C., Woodbridge, Suffolk.
- Page-Roberts, Rev. F., Halstead Rectory, Sevenoaks, Kent.
- Pearson, C. E., Lowdham, Nottingham.
- Reuthe, G., Wensleydale, Hanworth Road, Feltham, Middlesex.
- Salter, C. J., Woodhatch Gardens, Reigate.
- Salfe-Leonard, H., Hitherbury, St. Catherine's, Guildford.
- Thomson, W. P., 25, Bollo Lane, Chiswick, W.
- Turner, H., V.M.H., Slough.
- Walker, J., Ham Common, Surrey.
- Wallace, R. W., Kilnfield, Colchester.

Orchid Committee (Established March 26th, 1889.)

- CHAIRMAN.—Veitch, H. J., F.L.S., King's Road, Chelsea, S.W.
- VICE-CHAIRMEN.—Fowler, J. Gurney, Glebeland, Woodford; Lawrence, Sir Trevor, Bart., V.M.H., 57, Princes Gate, S.W.; Schröder, Baron, V.M.H., The Dell, Staines.
- HON. SECRETARY.—O'Brien, James, V.M.H., Marian, Harrow-on-the-Hill.
- Ashton, F. W., Southgate, N.
- Ashworth, E., Harefield Hall, Wilmslow, Cheshire.
- Balfour, Prof. Bayley, F.R.S., V.M.H., Edinburgh.
- Ballantine, H., The Dell Gardens, Staines.
- Bilney, W. A., Fir Grange, Weybridge.
- Bond, T. W., Elstead House Gardens, Godalming.
- Boxall, W., V.M.H., 126, Brook Road, Upper Clapton.
- Brooman-White, R., Arddarroch, Garelochhead, N.B.
- Chapman, H., Cambridge Lodge, Flodden Road, Camberwell, S.E.
- Charlesworth, J., Heaton, Bradford.
- Colman, J., Gatton Park, Reigate, Surrey.
- Cobb, W., 33, Broadwater Down, Tunbridge Wells.
- Cokson, Norman C., Oakwood, Wylam, Northumberland.
- Crawshaw, de Barri, Rosefield, Sevenoaks.
- Cypher, John, J., Queen's Road, Cheltenham.
- Douglas, James, V.M.H., Edenside, Great Bookham.
- Feilding, C., Southgate House, Southgate.
- Hill, E., Tring Park Gardens, Tring.
- Hislop, A., Bletchley Park Gardens, Bletchley.
- Latham, W. B., Botanic Gardens, Birmingham.
- Law-Schofield, G. W., New Hall, Hey, Rawtenstall, Manchester.
- Little, H., Baronshalt, The Barons, E. Twickenham.
- Moore, F. W., V.M.H., Botanic Gardens, Glasnevin, Dublin.
- Moore, G. F., Chardwar, Bourton-on-the-Water, Glos.
- Odell, J. W., The Grove, Stanmore, Middlesex.
- Pitt, H. T., Rosslyn, 57, Stamford Hill, N.
- Pollett, H. M., Fernside, Bickley, Kent.
- Potter, J., Wilson, Elmwood, Park Hill Road, Croydon.
- Rehder, Frank, 29, Mincing Lane, E.C.
- Sander, F., V.M.H., St. Albans.
- Thompson, W., Walton Grange, Stone, Staffs.
- Turner, F. J., The Gardens, Sunningdale Park, Berks.
- Tracy, H. A., Amyand Park Road, Twickenham.
- White, W. H., Burford Lodge Gardens, Dorking.
- Young, W. H., Clare Lawn Gardens, East Sheen, S.W.

Narcissus and Tulip Committee (Established 1885).

CHAIRMAN.—Bennett-Poë, John T., 29, Ashley Place, S.W.
 VICE-CHAIRMAN.—Baker, J. G., F.R.S., V.M.H., 3, Cumberland Road, Kew;
 Dod, Rev. C. Wolley, M.A., V.M.H., Edge Hall, Malpas, Cheshire;
 Engleheart, Rev. George H., V.M.H., Appleshaw, Andover.
 HON. SECRETARY.—Scruse-Dickins, C. R., Coothurst Park, Horsham.
 Barr, R., 12, King Street, Covent Garden, W.C.
 Boscawen, Hon. J., Tregye, Perranwell, Cornwall.
 Bourne, Rev. S. E., Dunston Vicarage, Lincoln.
 Burbridge, F. W., M.A., V.M.H., Trinity College, Dublin.
 Cammell, M., Loxwood House, Billingshurst, Sussex.
 Copeland, W. F. M., Kibblestone Hall, Stone, Staffs.
 Cowan, C. W., Valleyfield, Penicuik, Midlothian.
 Dean, R., V.M.H., 42, Ranelagh Road, Ealing.
 Foster, Sir Michael, K.C.B., V.M.H., M.P., Sec. R.S., Shelford, Cambridge.
 De Graff, S. A., Leyden, Holland.
 Goldring, W., 28, Kew Gardens Road, Kew.
 Hall, A. D., Wye College, Ashford, Kent.
 Hartland, W. B., 24, Patrick Street, Cork.
 Kingsmill, A., The Holt, Harrow Weald, Stanmore.
 Krelage, J. H., Haarlem, Holland.
 Leichtlin, Max, Baden-Baden.
 MacMichael, Rev. C., Walpole Rectory, Wisbech.
 Marsh, Rev. T. H., Cawston Rectory, Norfolk.
 Moore, F. W., V.M.H., Royal Botanic Gardens, Glasnevin, Dublin.
 Pearson, J. Duncan, Chilwell Nurseries, Lowdham, Notts.
 Pope, J. The Ericas, King's Norton.
 Poupart, W., Marsh Farm, Twickenham.
 Reuthe, G., Wensleydale, Hanworth Road, Feltham, Middlesex.
 Smith, J. A. Dorien, Tresco Abbey, Scilly.
 Sydenham, R., 190, Bristol Road, Birmingham.
 Titheradge, G. T., 10, Cavendish Road, St. John's Wood, N.W.
 Walker, James, Ham Common, Surrey.
 Ware, Walter T., Inglescombe, near Bath.
 Wilks, Rev. W., M.A., Shirley Vicarage, Croydon.
 Willmott, Miss, V.M.H., Warley Place, Great Warley, Essex.

Societies.**Royal Horticultural, Scientific Committee, February 11th.**

Present: H. J. Veitch, Esq. (in the chair); Messrs. Hooper, Gordon, O'Brien, Chapinan, Holmes, Douglas, Worsdell, Saunders, Bowles, Rev. W. Wilks, Drs. Cooke, Rendle, and Masters.

Pelargonium in the Transvaal.—A correspondent sent leaves of *Pelargonium*, which were referred to Mr. Massee, who reports as follows: "The fungus on *Pelargonium* leaves is the African species of 'Geranium leaf-rust,' *Puccinia granularis*, K. and C. Diseased plants should be isolated, and the diseased leaves removed as quickly as the health of the plant will allow. Spraying with Condy's fluid would prevent healthy plants from becoming infected. The fungus is not uncommon on wild species of *Pelargonium* in S. Africa, and has probably passed from such wild plants to the cultivated ones. The fungus is a very interesting species, not previously known as attacking cultivated plants. Care will have to be taken that it is not imported into Europe.—GEO. MASSEE."

Air-canals in leaf and in flower-stalks of Nymphaeas.—Dr. Masters showed impressions illustrative of the varying arrangements in the air-canals in the petioles and peduncles of several species and varieties of this genus—arrangements which are sufficiently varied and sufficiently distinct to allow of the grouping of the several species and varieties into certain well defined groups. The subject had attracted the attention of the speaker many years ago, but the introduction of M. Latour Marliac's hybrids suggested a further examination, which was confirmatory of previous observations, and the results of which are detailed in the communication now laid before the Society. For the opportunity of examining numerous specimens, Dr. Masters expressed his great obligations to Mr. Hudson, the expert cultivator of these beautiful plants at Gunnersbury House.

Bristol and District Gardeners.

This association met at St. John's Rooms on Thursday evening last, when Mr. Moore-Sara read a paper on "The Rosaceæ." Mr. Moore-Sara explained that, although every member of the order is built on the same plan, there is a vast difference in the lesser details of the flowers. The Linnean system of classification he also described as being based mainly on the numbers of the pistils and stamens of the flowers. The order Rosaceæ being a very extended one, it is divided into sub-orders, which are also divided into several genera or tribes. These the essayist described in a clear way, taking the Apple, Pear, Plum, Cherry, Blackberry, and several of our hedgerow plants as examples, of which he gave minute details. Mr. Moore-Sara remarked that botanists were constantly working up the genera of plants, which often eventually resulted in the genera getting new names. His paper was a most instructive one, and, although an extremely deep subject, Mr. Moore-Sara manipulated his essay in a very creditable manner. On the motion of Mr. Binfield, who occupied the chair, Mr. Moore-Sara was cordially thanked. A Certificate of Merit was awarded to Mrs. A. Hall (gardener, Mr. Ware) for two exceedingly well-grown pots of *Freesia*. A largely attended meeting is expected on the 27th inst, when Mr. House, of Coombe Nurseries, Westbury-on-Trym, we are informed, gives his lecture on the "Violet."—H. K.

Chiswick Gardeners' Mutual.

At a meeting of the above association, held on February 6, Mr. Miller, of Ealing, read an interesting paper on "Plant Life" before a good attendance of members. Mr. Miller briefly traced vegetation from bacteria—viz., Fungi, Algæ, the Bryophytæ or Liverworts, vascular cryptogams, and the flowering plants, and spoke for a short time on the tissues, which become more and more complex as the scale is ascended. Methods of reproduction in the various types were noted, and the phenomenon of symbiosis or messmatism, as in the Lichens, was discussed. The whole paper resolved itself into a brief treatise on some of the phases of protoplasm, and as such was of immense interest. The discussion was opened by Mr. A. Osborn, followed by others. The meeting closed with a hearty vote of thanks to Mr. Miller for his paper.

Chester Paxton Society.

At the Grosvenor Museum, on Saturday, Mr. B. Moore, The Dale, read a carefully prepared paper, entitled "The Successful Culture of *Calanthes*." Mr. Moore, who has been a successful grower of these beautiful Orchidaceous plants for a number of years, dealt with his subject in a very practical manner. He placed a high estimate upon them for decorative purposes, and stated that with care they would last from two to three weeks after being cut. Proceeding, he gave minute cultural details as to the best soils to use for potting, as well as the most suitable manures to give the plants in their various stages of growth. The insect pests affecting *Calanthes* were also fully dealt with, particulars being given by the lecturer as to the best and most efficacious means of exterminating these. The chairman (Mr. John Weaver) and others took part in the discussion which followed, and on the proposition of Mr. Miln, seconded by Mr. Wakefield, Mr. Moore was accorded a hearty vote of thanks for his valuable paper.

Southampton Royal Horticultural (Annual General Meeting).

The annual meeting of this society was held in the Mayor's parlour, Municipal Buildings, on Tuesday, the 11th inst. There was an unusually large number of members present. The Mayor, who was to have taken the chair, being unable to attend, Alderman E. T. Wise, one of the vice-presidents, presided. A communication was read from the chairman of the council, Mr. J. Key Allen, stating that he was removing from Southampton, and regretted very much that he was compelled to sever his official connection with the society. Mr. Allen formally proposed the adoption of the annual report and statement of accounts. In doing so he contrasted the financial condition of the society now and five years ago, when, at the completion of the lease of Westwood Park they had to provide for a deficit of £200. At the present time the society had assets amounting to over £106, of which over £82 is cash at the bank, whilst the only liability was £25 due to the five remaining bondholders. The council's fortieth report alluded to the favourable state of the society's finances, notwithstanding that the receipts at the shows were not so satisfactory as in the previous year. The society was reminded of its indebtedness to the president, Sir Samuel Montagu, Bart., for the success of the garden party held in his beautiful grounds at South Stoneham House in July last. The exhibitions held in 1901 were generally admitted to have been the best held for many years, fully justifying the increased amount offered in prizes. This was especially marked in the splendid display of Roses at the summer show.

At the Chrysanthemum show there was not only a very large entry, but the general excellence of the exhibits merited the highest praise. The Japanese blooms to which was awarded the Queen Victoria Memorial Challenge Trophy (value £40) could not have been excelled; the same might also be said of the groups of Chrysanthemum plants. Of the splendid show of fruit the judges expressed the opinion they had never seen a better outside the Crystal Palace. The report concluded by tendering the thanks of the council to the many friends of the society who had rendered assistance in various ways.

The report and statement of accounts was unanimously adopted. The election of officers was then proceeded with. Sir Samuel Montagu, Bart., was for the fifth time elected president of the society. The vice-presidents were re-elected en bloc, Mr. J. Key Allen being added to the list. Mr. H. J. Blakeway, former vice-chairman, was elected chairman of the council, and Mr. E. Brown, jun. (the successful amateur Chrysanthemum grower), vice-chairman. Mr. C. Tuck, members' auditor. Mr. W. G. Davy, of the National and Provincial Bank of England, was re-elected hon. treasurer. Mr. C. S. Fudge was also, for the thirtieth time, re-elected secretary of the society, both proposer and seconder speaking in the highest terms of the services of Mr. Fudge during the twenty-nine years he had held the position. The retiring members of the council were all re-elected. Votes of thanks to the officers of the society, the Mayor, the retiring auditor, the Press, and the chairman concluded the business.

In moving the adoption of the report, the chairman drew attention to the decrease of £22 in the year's receipts, but the annual dinner receipts showed an excess of £45 over last year. He also referred to the investments that had been favourably made, the invested stock being £10,525 6s. 10d. The grants made by the executive committee to those orphans leaving the Fund to enter situations was appreciated, he said, as a great boon. He pleaded that gardeners and subscribers in the country would do more to make the Fund known and monetarily assisted. Sir John Llewelyn, Bart., seconded the report. He also desired the Fund to be better advertised in the provinces. He regretted the loss by death of such men as are named in the report, and hoped that others would be found to fill their places. The report and balance-sheet was carried unanimously. Dr. M. T. Masters proposed that Mr. Leonard Sutton be elected a trustee, which, being seconded by Mr. Harry J. Veitch, was unanimously agreed to. Mr. N. N. Sherwood was re-elected treasurer, and Hon. F. W. D. Smith a vice-president. The members of committee were thanked for their past services, Messrs. Barron, Osborn, and J. Walker retiring, and their places being filled by Messrs. Geo. H. Barr, T. W. Sanders, and Geo. Nicholson. On the motion of Mr. A. Dean, seconded by Mr. Assbee, Mr. A. Barron (of Chiswick) was unanimously elected a vice-president. Mr. Brian Wynne was unanimously re-elected secretary with salary, as heretofore, after which the scrutineers of the ballot were nominated, and at 4.30 the following orphans were declared elected: Hugh Allen, Edith Martha Bevis, Mary Madeline de Gruchy, Frederick John Nicholls, Herbert Henry Crehard, Herbert Robinson, John Alex. Craise Robertson, Edith Daisy Seyderhelm, Ethel May Seyderhelm, Florence Esther Tickner, Hilda Rose Tickner, and John Albert Wakelin. Four were not elected. Votes of thanks to the scrutineers and the chairman terminated the afternoon's proceedings.

Reading and District Gardeners.

The fortnightly meeting of the above association, held in the Abbey Hall on the 10th inst., was presided over by Mr. Leonard Sutton, the president, and was attended by nearly 130 members, one of the largest attendances yet recorded. The subject for the evening was "Salient Points of Fruit Culture," and was introduced in an exceedingly practical manner by Mr. E. Molyneux, of Swanmore Park, Bishops Waltham, his demonstrations in the art of root and branch pruning, staking, &c., making his lecture easy to follow even by the youngest member present. He treated his subject under the following headings: The planting of fruit trees; root-pruning; summer pruning; stimulating the trees; staking; Peaches out of doors and indoors; Vines and Melons. At the close many questions were asked, and an interesting discussion took place. The exhibits were of exceptional quality for the season of the year, consisting of some splendid samples of Apples, Mr. J. Hissey, The Gardens, Beenham Grange, staging six dishes of Small's Admirable, and Mr. E. Fry, The Gardens, Greenlands, Reading, a dish of Annie Elizabeth Apples, whilst Mr. J. Wicks, of The Gardens, Broad Oak, staged several pots of well-grown *Lachenalia luteola*. Mr. Hissey had entered his Apples for the Association's Certificate of Cultural Merit, and the judges had no difficulty in awarding the same. A hearty vote of thanks was accorded the lecturer and exhibitors.

West Derby Horticultural.

The annual supper in connection with the above society was held at the West Derby Hotel on February 13, Mr. C. A. Young, of the Floral Nursery, West Derby, presiding. After the usual loyal toasts had been proposed a most interesting event took place, viz., the presentation of a most handsome silver-mounted "Tantalus" to Mr. John Massey, who that day completed a service of forty years as gardener at Bankfield, West Derby, the presentation being made by the chairman. Messrs. C. Gore, Curtis, and A. Rose spoke in the same high terms of appreciation as the chairman. Mr. Massey, on rising, was received with applause. He expressed his deep sense of gratefulness for the handsome gift, remarking that not only was he celebrating his forty years' service at Bankfield, but that it was also his seventy-first birthday. He entered the gardens at the time of the return of troops from the Crimea, had served under nine employers, and had seen the estate put up by auction on three occasions. He concluded by reviewing the history of the West Derby Society. The inscription on the "Tantalus" was as follows: "Presented to Mr. John Massey, by a few friends, on the completion of forty years' service at Bankfield." Amongst the subscribers were Messrs. Hignett, sons of Mrs. Hignett, the present owner of Bankfield. The treasurer's account of the year's working of the society showed (at the commencement of 1901) a deficit of £21 11s. 8d., but thanks to some admirable theatricals, kindly arranged by Tom Cookson, Esq., the splendid sum of £30 2s. was realised as a balance. The energetic hon. secretary, Mr. A. Rose, was again elected, the committee rightly placing on record his valuable services

for the past eleven years, and a proposition that a fitting recognition should be made was entered on the minutes. The Rector (Rev. Percy Stewart) and Mr. C. A. Young were again appointed president and chairman respectively. Votes of thanks closed the meeting.—R. P. R.

Trade Notes.

"The Nature-Study Journal" is the title of a tiny paper which it is hoped may henceforth appear every month as a means of communication between men engaged in teaching what may be termed Nature-study. It is published by the South-Eastern Agricultural College, Wye, Kent, price 3d., and the first number includes a preface by the Right Hon. Sir William Hart-Dyke, Bart., M.P.; an introduction by Mr. A. D. Hall, the Editor; "Leaves, and their Veining," by Mr. H. Brooker, Ewhurst; and "Dodges of Nature," by Mr. A. E. Chandler, Puttenham.

* * *

Henry Eckford, of Wem, Shropshire, sends his catalogue of seeds, comprising a classified arrangement of his specialities—the Sweet Peas and culinary Peas. The novelties are tabulated by themselves for easy reference, and under their respective colours all the known sorts are tabulated. A prominent feature, also, are the "Collections of Sweet Peas," as the "Mansion Collection," the "Expert's Collection," the amateur's, the exhibitor's, the villa collection. We cite a letter that Mr. Eckford recently received, thus: "Some of the Sweet Peas I got from you last year were given to a friend, who had them sown alongside some others procured locally. He now says it pays to get good seed, and little thought that the difference would have been so great. He is perfectly satisfied that he can grow Sweet Peas now. It was good seed he wanted."

"Clay's Successful Gardening."

The first edition of the above (published at 1s.), of which many thousands of copies were printed, we learn has been completely exhausted, and the second edition is now being sold to the public at sixpence. This publication has been completely revised, and the range of subjects extended, especially in the department devoted to "Speciality Growing." The papers dealing with the culture of Daffodils, Dahlias, Lilies, Sweet Peas, Tomatoes, and indoor gardening are quite new, and treat of up-to-date popularities in flower and fruit that are receiving particular attention from professional and amateur enthusiasts. Copies can be obtained from all booksellers.

Garden Notes for the Colonies.

Messrs. James Carter and Co., Royal seedsmen, High Holborn, London, England, have published a sixth edition (1902) of their "Garden Notes for the Colonies and Abroad." It was once remarked by that greatest of past horticulturists—London—that wherever the Turnip will produce a bulb and the Cabbage a firm heart that climate and soil may be considered favourable for the growth of common vegetables and flowers. Thus it is that our fellow countrymen who have gone far from these shores to what we term "The Colonies," have had resource in very many cases to home-seeds of vegetables and flowers. This book of over fifty pages, prepared and issued by Messrs. Carter and Co., describes the physical characteristics of a large proportion of the islands and colonial possessions of the British Empire and also of alien countries, and enumerates those vegetables and food products from seeds that each produces. Notes on how cultivation is performed add to the great interest and value of the publication.

Trees at Two Guineas Each.

We are pleased to notice Messrs. Horne and Sons are doing their best to try and raise the fruit-growing industry. The Charles Ross Apple is the first ever put into commerce as maiden trees at 2 guineas each, with the result that sufficient were sold to close the offer within one week. The investment to all who purchased them the first year has turned out a great success. One firm we could name who purchased the full limit of trees (five) allowed to one purchaser, propagated from every bud. The number we would not like to say, but, great as it was, have had to apply to Messrs. Horne the last few weeks for several dozen to supply their immediate orders. We notice Messrs. Horne tied themselves not to sell any the second year up to 1901 for less than 21s. each, but omitted to bind the purchasers. This error is corrected in the offer of their new Apple, the Honblon, which will be better for one and all, as the public will not be able to purchase anywhere for less than 1 guinea each until after June 1, 1904. We are pleased to hear the Honblon is meeting with the same success as the Charles Ross, and we understand all orders are numbered as received and will be sent out in rotation. Should the orders exceed the supply the deposit will be returned.



Fruit Forcing.

VINES FROM EYES.—Buds inserted as advised have rooted, and, if in small pots, they may be shifted into a larger size as soon as the roots reach the sides, standing the pots on slate or tile shelves over hot-water pipes in preference to plunging them in bottom heat. If the eyes were inserted in pots or pans several together, they may be placed in small pots singly, plunged in bottom heat to insure speedy root action, and when the roots reach the sides transfer them to 6-inch pots. Syringe well amongst them, and stop those for fruiting next year at the first joint of the laterals; but those intended for planting out this season, whether grown in pots or turves, may be allowed to retain all the growth made.

EARLY VINES IN POTS.—These must not sustain any check through dryness or lack of nourishment. Top-dress with rich turfy loam and decayed manure in about equal parts, placing rims of zinc 3in or 4in deep round the tops of the pots, or, if the pots have fermenting material extending to the rim, strips of turf should be laid on so as to form the necessary dish. When the roots are working freely in the top-dressing, sprinkle a little approved fertiliser on the surface occasionally. Afford liquid manure a few degrees warmer than the temperature of the house in which they are growing, there not being anything like plenty of feeders and nourishment to secure well-developed berries. In order to keep the sap concentrated on the berries pinch the laterals below the bunch closely, allowing more liberty to those above them. Avoid, however, overcrowding the trellis with foliage that cannot have full exposure to light. With the Grapes approaching the stoning process, careful management is necessary. Ventilate early in the day, affording a little air at 70deg, increasing it with the heat to 80deg, and if the temperature advance to 85deg or 90deg all the better. Avoid cold draughts, as they are prolific of rust, and impair the assimilating power of the foliage. If red spider appear, employ a little sulphur on the hot-water pipes, or sponge the affected leaves with a solution of softsoap, 2oz to a gallon of water.

VINES STARTED AT THE NEW YEAR.—When the best shows for fruit can be determined, disbudding may commence; but it is not wise to be in too great a hurry about this work, nor in tying the shoots to the trellis. The object of disbudding is to give the shoots left full exposure to light, it being better to err on the side of not crowding the foliage. Stopping, too, should not be done too hurriedly. Allow at least two joints, and, if possible, three or four joints, beyond the bunch, and stop all laterals below the fruit at the first joint, or they may be rubbed off except from the two lowermost leaves. The laterals from these should be pinched at the first joint, but those level with and above the fruit may be allowed to extend as space admits. When in flower afford a night temperature of 65deg to 70deg, with 10deg to 15deg rise from sun heat, closing at 80deg. Vine flowers set best when the atmospheric moisture is not excessive. An over-moist or, on the other hand, a dry atmosphere, must be equally avoided. Muscats require a higher temperature and drier atmosphere than some varieties when setting, artificial impregnation being occasionally practised, and in all cases is advisable, by fertilising every bunch with Black Hamburg pollen or other free-setting variety.—**ST. ALBANS.**

Trade Catalogues Received.

- Clibrans, 10 and 12, Market Street, Manchester.—*Farm Seeds.*
- Clibrans, Oldfield Nurseries, Manchester.—*Chrysanthemums.*
- Dickson & Robinson, Manchester.—*Seeds.*
- Henry Eckford, Seed Grower, Wem, Shropshire.—*Giant Sweet Peas and other Seeds.*
- Friedrich Adolph Haage, jun., Erfurt, Germany.—*Seeds.*
- E. H. Krelage & Son, Bloemhof, Haarlem, Holland.—*New and Rare Plants.*
- Nathaniel Smith & Son, Wholesale Florists, Adrian, Mich., U.S.A.—*Chrysanthemums.*
- Sutton & Sons, Reading.—*Sutton's Farmers' Year Book.*

Note to Readers.—We request those of our readers who may experience any difficulty in obtaining copies of this Journal regularly to be good enough to acquaint us with the fact.



* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

LAPAGERIAS (Tulip).—In suitable borders *Lapagerias* will root 3ft deep, perhaps more. By annual top-dressings of fibrous peat and loam in equal parts, well opened with pounded charcoal and coarse sea or silver sand, the fibrous roots will be encouraged to the surface. As you may have observed, the *Lapageria* annually sends up young sucker shoots from the base or collar.

HORTICULTURAL INSTRUCTORSHIP ("Botany").—No doubt you have the necessary qualifications to assume the duties of instructor in horticulture to a County Council. The qualifications are, firstly, a good, all-round knowledge of practical gardening and the scientific principles underlying it; secondly, a ready tongue—a very necessary quality. These two heads summarise nearly all the necessary points. Undoubtedly a gardener trained in the country, who has secured a knowledge of botany (the more advanced the better), the elements of practical agricultural chemistry, and of entomology, with a sound knowledge of fruit and vegetable culture in particular, is as perfectly qualified as a man who may have had a Kew or Edinburgh Botanic Garden training. Certainly we think your desire natural, and the best advice we may give is to keep your eyes and ears open for prospective vacancies, and meanwhile train along the lines you know to be necessary for success as an instructor. Openings are not everyday occurrences, and only smart men (usually with some influence behind them) can hope to obtain appointments.

PLANTING AND TRAINING APPLE AND PEAR TREES AS DIAGONAL CORDONS (One in Doubt).—The trees should be planted obliquely—that is, at the incline they are to be trained—for unless maiden trees, or even with them, there is danger of injuring the stems when they are planted upright and the stems brought down. In the case of maiden trees we have done this, but generally it is better to plant on the incline. The trees should be planted 2ft apart, and the distance between G and H will therefore be 6ft. If the distance between the trees at the ground is 20in, the distance from G to H will be 60in, or 5ft. B, not A, should be the main stem, it being easy to take a growth from the base to form the branch A, and by bringing down this at the required distances successively similar to the first the proper growths will be originated with facility. It is different with the tree G. It should be brought down horizontally, or as near as may be without injury, and taken forward 4ft, if so long, and then its point taken upward and another branch at 2ft from the stem G, one also being taken up from the latter point. There is no need for the branch D; indeed, it is superfluous, though often introduced in sketches as a finish, but in practice is best omitted, even in a sketch it is an upright not a diagonal, and no use in forming one.

APPLYING SUPERPHOSPHATE OF LIME FOR LAND TO BE CROPPED WITH CABBAGE (Clubb).—The best time to apply superphosphate of lime for Cabbages is at seed time or planting time. As your land is light and not calcareous, it would be advisable to use 3cwt of superphosphate mixed with 2cwt of bonemeal, per acre, 3½lb per rod, and at singling time or, if set, after the plants have got hold of the soil, top-dress with 2cwt nitrate soda, mixed with 3cwt of salt, both ground, per acre, or 3½lb per rod. You mention your land being liable to cause clubbing in Cauliflowers and other Brassicas. We, therefore, advise a dressing of gas lime fresh from gasworks, 2½ tons per acre, 35lb per rod, spreading evenly on the surface and leaving for a month before ploughing or digging in. We also should use bonemeal instead of superphosphate, preferably steamed bonemeal, 3cwt, and 2cwt ground coprolite, mixed, per acre, at seed time or planting out, and at singling out time, or shortly after planting, top-dress with 2cwt crushed nitrate of soda and 3cwt ground rock salt, mixed, per acre. The gas lime is, perhaps, the best preventive of clubbing, and the fertilisers named are excellent for the Brassica tribe, particularly on light land. We, however, prefer to use kainit with bonemeal in autumn, and in equal proportions. Apply 5cwt of the mixture per acre, or 3½lb per rod, using at singling or setting time the nitrate of soda and salt mixture.

QUERY.—A German firm inquires the correct address of the British-American Ballnozzle Company (?). We are of opinion the said company is defunct. Can any of our readers enlighten us?

R.H.S. EXAMINATIONS (F. S.).—There is no necessity to have all the books that the Council of the R.H.S. recommend. Get a knowledge of elementary botany, and read Cousin's "Chemistry of the Garden" (1s., Macmillan) thoroughly, and this, with sufficient practical knowledge, should carry you well up in the list of "passes." We will reply more fully next week.

QUESTIONS—VARIOUS (C. Jones).—No. 1: All depends on the treatment after blooms are taken from forced Hyacinths. Water and feed a little after flowers are cut; place bulbs in a cool house, say 50deg to 55deg, and gradually ripen off later in the year. Dry them, and plant 5in deep in good soil in autumn, and the young bulbils will do well. They may be lifted in June of next year (1903), and many will flower the succeeding spring. Or could you not leave them in beds in the ground? No. 2: Cyclamens will continue to flower annually for four, five, or even six years when properly treated; but the practice of growing corms longer than three years at the very outside is one we cannot possibly recommend. Sow a fresh batch in August each year; that's better. No. 3: It is better to strike fresh leaf or stem cuttings of Begonia Gloire de Lorraine than trying to maintain the old plants.

NAMES OF FRUITS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (H. Ky.).—Pear Winter Nelis.

NAMES OF PLANTS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (Tulip).—Forced Tulips vary considerably from their normal characters, but we think the name Mons Tresor for the yellow Tulip is quite correct. See answer to Lapagerias in another paragraph. (A. B.).—1, Dædalacanthus grandiflorus; 2, Begonia manicata; 3, Prunus sinensis fl.-pl.; 4, Spiræa Van Houttei; 5, Begonia eoeinea. (J. F. T.).—1, Acaëa urophylla; 2, Calceolaria Burbidgei; 3, Galanthus Ikare.

EDITORIAL NOTICE.—Our readers can greatly assist in adding interest to the pages of "The Journal" by their kindly contribution of timely notes and notices, and at the present period of the year there may be photographic examples of well-grown fruit, &c., growing or otherwise, that would be worthy of reproduction. The Editor would be pleased to have such subjects for consideration and probable use. He does not guarantee to pay for prints unless by special agreement.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1902.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
Sunday ... 9	N.N.W.	deg. 32.0	deg. 31.2	deg. 40.0	deg. 30.7	Ins. —	deg. 36.1	deg. 39.3	deg. 43.0	deg. 24.0
Monday ... 10	W.N.W.	29.7	28.5	35.8	25.3	—	35.6	39.2	42.9	18.4
Tuesday ... 11	N.N.W.	29.0	27.8	39.7	23.0	—	35.1	39.1	42.8	17.2
Wednesday ... 12	N.N.W.	30.0	29.0	38.3	21.3	—	34.9	38.9	42.7	17.0
Thursday ... 13	N.N.E.	30.7	28.9	37.6	18.1	—	34.5	38.5	42.6	15.6
Friday ... 14	N.N.E.	29.4	28.7	35.0	27.3	—	34.4	38.3	42.5	17.4
Saturday ... 15	N.N.W.	35.0	32.3	36.2	29.3	—	34.9	38.2	42.3	22.1
MEANS ...		30.8	29.5	37.5	25.0	Total. —	35.1	38.8	42.7	18.8

A week of dull sunless weather, with fog on several days, the temperature being lower than at any time during the present winter.

Covent Garden Market.—February 19th.

Average Wholesale Prices.—Fruit.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, cooking, bush.	8	0	10	0	Grapes, Alicante, lb. ...	2	0	2	6
„ Newtowns,					„ Colman	2	0	3	0
ease	10	0	0	0	„ Museat	0	0	5	0
Bananas	8	0	12	0	„ Almeria	0	6	0	8
Cranberries, 30 to 36 qt.					Oranges, per ease ...	10	0	25	0
consignment ...	9	0	10	0	Pears, French, crate ...	12	0	0	0
Dates, red V., doz. bxs.	5	6	0	0	Pines, St. Michael's,				
Lemons, Messina, ease	12	0	16	0	each	2	6	3	6

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	2 0	to 3 0	Mushrooms, forced, lb.	0 6	to 0 8
„ Jerusalem, sieve	1 6	0 0	Mustard & Cress, doz.	1 6	0 0
Batavia, doz.	2 0	0 0	Parsley, doz. bnchs. ...	2 0	3 0
Beans, French, per lb.	2 0	0 0	Potatoes, new French,		
Beet, red, doz.	0 6	0 0	per lb.	0 3½	0 4
Brussels Sprouts, ½ sieve	2 0	3 0	Potatoes, English, ewt.	4 0	5 0
Cabbages, tally	1 6	3 0	Radishes, doz.	1 6	0 0
Carrots, doz. bnch. ...	2 0	2 6	„ long, doz.	0 9	0 10
Cauliflowers, doz. ...	2 0	3 0	Seakale	1 0	1 3
Corn Salad, strike ...	1 0	1 3	Shallots, lb.	0 2	0 3
Cucumbers doz.	10 0	15 0	Spinach, bush.	2 0	3 0
Endive, doz.	1 0	1 3	Sprue, French, doz. bn.	8 0	9 0
Herbs, bunch	0 2	0 0	Tomatoes, Teneriffe		
Horseradish, bunch ...	1 6	0 0	consignment	4 0	0 0
Leeks, bunch	0 1½	2 0	Turnips, doz. bnch. ...	2 0	3 0
Lettuce, Cabbage, doz.	1 3	2 0	Watercress, doz.	0 6	0 0

Average Wholesale Prices.—Plants in Pots.

Most of the undermentioned plants are sold in 48 and 32-sized pots.

	s. d.	s. d.		s. d.	s. d.				
Aralias, doz.	5	0 to 12	0	Ficus elastica, doz. ...	9	0 to 12	0		
Araucaria, doz.	12	0	30	0	Foliage plants, var, each	1	0	5	0
Aspidistra, doz.	18	0	36	0	Grevilleas, 48's, doz. ...	4	0	5	0
Azaleas, white and					Lycopodiums, doz. ...	3	0	0	0
coloured, doz. ...	30	0	36	0	Marguerite Daisy, doz.	8	0	10	0
Crotons, doz.	18	0	30	0	Myrtles, doz.	6	0	9	0
Cyclamen, doz.	9	0	10	0	Palms, in var., doz. ...	15	0	30	6
Cyperus alternifolius					" specimens	21	0	63	0
per doz.	4	0	5	0	Pandanus Veitchi, 48's,				
Draeena, var., doz. ...	12	0	30	0	doz.	24	0	30	0
Draeena, viridis, doz.	9	0	18	0	Primulas	3	0	4	0
Erica hyemalis	9	0	10	0	Shrubs, in pots	4	0	6	0
" alba... ..	10	0	12	0	Solanums	8	0	10	0
Ferns, var, doz.	4	0	18	0	Spiraea japonica, 48's,				
Ferns, small, 100....	10	0	16	0	doz.	10	0	12	0

Average Wholesale Prices.—Cut Flowers

	s. d.	s. d.		s. d.	s. d.
Acacia "mimosa," pad	6	0 to 8	0	Lilium l. rubrum ...	2 0 to 2 6
Anemone, double pink,				" longiflorum ...	3 0 4 0
per doz.	1 6	0 0		Maidenhair Fern, doz.	
Arums, doz.	4 0	6 0		bnchs.	0 0 8 0
Asparagus, Fern, bnch.	1 0	2 0		Marguerites, white,	
Azalea mollis, per bun.	1 0	0 0		doz. bnchs.	4 0 0 0
Bouvardia, white,				" yellow, doz. bnchs.	2 0 0 0
doz. bunches... ..	0 0	8 0		Myrtle, English, per	
Bouvardia, coloured,				bun.	0 6 0
doz. bunches... ..	0 0	8 0		Narcissus, paper white,	
Camellias, white... ..	2 0	2 6		doz. bunches... ..	0 0 2 6
Carnations, 12 blooms	1 3	1 9		" Soleil d'Or	0 0 1 6
Cattleyas, doz.	0 0	12 0		" double Roman	1 6 2 0
Croton foliage, bun. ...	0 9	1 0		Odontoglossums	4 0 0 0
Cycas leaves, each ...	0 9	1 6		Orange blossom, bun.	2 0 3 0
Cypripediums, doz. ...	2 0	0 0		Primula, double white,	
Daffodils, single, doz...	5 0	8 0		doz. bunches... ..	6 0 8 0
" double "	4 0	6 0		Roses, Niphetos, white,	
Eucharis, doz.	0 0	3 0		doz.	2 0 3 0
Freesias, doz. bunches	2 0	3 0		" pink, doz.	4 0 6 0
Gardenias, doz.	6 0	0 0		" yellow, doz. (Perles)	2 0 3 0
Geranium, scarlet, doz.				Smilax, bnch	3 0 4 0
bnchs.	4 0	6 0		Tuberose, gross	0 0 12 0
Hyacinth, Roman,				Tulips, white, single,	
doz. bunches... ..	7 0	8 0		doz. bun.	9 0 0 0
Ivy leaves, doz. bun. ...	1 6	0 0		" coloured, doz.	
Lilac, French, white,				bun.	9 0 0 0
per bun.	4 0	4 6		" scarlet, single,	
Lilium Harrisii	4 0	6 0		doz. bun.	4 0 5 0
" lanceifolium alb.	2 0	2 6		Violets, single, doz ...	1 6 0 0
Lily of the Valley, 12				" double, doz.	3 0 4 0
bnchs	6 0	12 0			



Co-operation in Craven.

We have to-day come across a short account of the year's progress made by the Skipton and District Tenant Farmers' Association. This Association is but a year old, and the members have found already the great benefits that arise from well managed co-operation. Linseed and cotton cake have been purchased in bulk, and then retailed to the several consumers. Full weight has thus been insured with wholesale prices. The membership of the Association has

doubled itself during the year, and, *mirabile dictu!* there is a balance in hand! A Shire stallion has been hired to travel the district, and negotiations are on foot for a Hackney sire for the benefit of the members. As Skipton, in Craven, is a dairy district, we find, as we should expect, that meal for the feeding of cows is one of the items, and we are glad to observe that it, too, has been purchased wholesale. We have often commented on the difficulty of procuring bran and sharps. Flour is always to be had; but these offals, bye-products, are often very dear and scarce. Flour is imported; but the bye-products, which are of the utmost value to farmers, we suppose must find equally ready buyers at the "other side." These good people have a project in view of taking, or buying, premises and machinery, where they can grind and dress their own corn; this will apply to other grain than wheat, and we doubt not that they should be able to mix, in the future, their own dairy meals, and, in fact, feeding meals of all descriptions. They will thus get a cheaper article and ensure its purity. The services of an analyst have been engaged, and he will find plenty of work in the testing of manures and feeding cakes. We should not be surprised to hear of a seed-crushing business being added to their undertakings. "Cake" is such a Catholic word—it covers so many compounds—some good, some very bad, and others indifferent—all dear. Practical farmers know pretty well on what mixtures their stock thrive the best, and we see no reason why they as a co-operative body should not do the blending as well as the professional crusher.

We shall see co-operative dairies before long in Craven. There is a grand outlet for dairy produce in all the big towns so near the district—the market is actually at the very door. And another point some of us have read a good deal lately about—this Army Remount business. It does not sound very well, especially that part relating to transactions in Hungary. There has been a good bit of money wasted, and reputations have been at stake. In this district, as well as in Ireland, horse-breeding has not received all the attention it should, and surely there is room and scope for the small farmer to try what he can do for the credit of his country. There is still a trade for hunters, and will be so as long as the spirit of sport is inherent in Englishmen. We welcome this as a sign of the times—the reproach of standing aloof has too long attached itself to the farmer. It is a bad spirit, and a mischievous one. No man is strong enough really to stand alone. We have been very slow to learn the lesson of "Union" combined effort; but when once learned we shall have got it *firm*—solid. We are learning in adversity what we never should have entertained when things went well with us. What might we not have done in the past if we had only possessed a bit more common sense? We might have dictated terms to landlords' agents, and all purveyors of articles that which we need. We should have done more good in that way than by worrying about representatives in Parliament, though we don't for one moment wish to underrate the value of such representation; but the agricultural community is its own best helper, but it must remember it has no power except by cohesion.

If the labour question reaches an even more acute stage, which we hope it may not, we shall be driven in the future to methods to meet the times. Letting arable land go back to pasture will not solve the difficulty. There is a great day coming for machinery, and we shall probably see whole parishes joining in the purchase of what is necessary, and working it by means of some simple system of co-operation.

Excessive Railway Rates.

Talking of Potatoes for America, leads on naturally to the subject of railway and other rates for goods, and here we follow out to the letter the noblest maxims of Free Trade—we favour the foreigner in every direction. Of course this is a wise policy if we look at the subject from the consumer's point of view, but we rather forget the poor producer. We suppose we make the rates low so as not to frighten off those people who have it in their power to supply us with goods. Those people at home must sell us their stuff, as there is no market abroad for it, and we (the big towns) do not much care if we get it or not.

An instance came to our notice some little time ago—our readers may have heard of the like before. The carriage per ton of goods from Alexandria to a northern port is exactly the same as the carriage per ton from that port to an adjacent town under thirty miles away (by water). Why this

should be we cannot for the life of us see; but so it is. It is just the same with other goods, 2s. per ton down the river to port of embarkation, and not much more if you wish to tranship to New York. It is just the same on the railways from Boulogne to London. The rate for one-ton lots is 12s. 5d., empties returned free; and from Folkestone to London and intermediate stations the rate is 27s. 7d., empties charged. If it is wished to send a basket of fruit to London, the distance being about forty miles, the charge will be 1s. 2d. Send twenty-five baskets of fruit from the neighbourhood of Brussels to Covent Garden, the rate per basket is 2½d.; and who says there is no need for railway reform?

Of course, people will say that at any rates we could never supply the amount of stuff. Is there any encouragement to try? Who says we cannot grow hay? And yet when we hear of consignments of hay travelling forty miles, and taking for that journey from twenty-five to ten days, what are we to think? It is high time we had motor forces on the road if this state of things is not to be altered. True, for small parcels of goods which come under the head of "Agricultural produce" there are reduced rates, but these rates are far above those that regulate foreign custom. We only ask to be put on an equality with all outside providers. We do not tax them at the ports, and the least we can do is to make them pay equal railway rates with ourselves. We wish some great agitator would take the question up. It would be to the interest of the shareholders to increase dividends, and it would give the home grower a chance against the outsider.

Work on the Home Farm.

We were a little previous in assuming that winter was over, for now, in mid-February we are experiencing more severe frost than we have had for four or five years. Yesterday 24deg of frost and to-day 29deg have bound everything in iron, and as there is no manure to get out we shall positively have to make exercise jobs for the horses. A good big compost heap to spread on grass seems the only available occupation. It is much too frosty to do anything with Potato delivery, and it is to be feared that lots already on rails or in transit may prove to be severely damaged. A continuation of frost might give the Potato trade a very much-needed fillip.

It is fortunate that there is a 2in to 3in covering of snow to protect Wheat and partly protect Turnips. Nevertheless, the latter are frozen so hard that they are difficult to trim and cut, but they may be worth very little when the thaw comes. Those who have made provision for frost by freely storing their roots are now in a happy position, but most of all those who have a big heap of Swedes stored Mangold fashion in close contiguity to the yards. It is bad enough to have to cut frozen roots, but pulping them when they are in that condition is well-nigh impossible. The satisfaction of having an ample supply of good food for our stock in weather like this is ample reward for the labour and expense of putting the roots away. Whether the roots are frozen or not, the sheep must now have the assistance of plenty of dry food, especially the ewes, which, whether they have lambed or not, have now a great drain on their systems, and they must have food of a nourishing character. There is nothing so good for this purpose as good hay, but few farmers can spare any for the sheep. Cut straw with an admixture of malt culms or dried grains is the best alternative, and one or other must be given while this winter lasts. There is one virtue of severe weather, the sheep layer is good as long as there is not too much snow.

There is still a little fencing to do. The big hedges have been taken down, and we have a supply of Thorn for guarding weak places and making beards to keep stock from the young growths. As usual, good stakes are difficult to get. There has been a lull in the timber-felling line this winter, and the demand for stakes and rough fencing timber exceeds the supply.

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Journal of Horticulture.

THURSDAY, FEBRUARY 27, 1902.

A February Day in the Garden.

"Thou lingerest, Spring! still wintry is the scene."
SOUTHEY.

WHEN winter is distant we look upon it with kindlier eye than when it is actually upon us, and we must part from our flowers for a time, as they are hidden 'neath Nature's coverlet. But we are, one thinks, less the admirers of the flowerless time when it comes late upon us, just when we were hoping for the crowds of charming beauties which tell of the advent of warmer and brighter days. It often arrives so suddenly, too, just when we had hoped that the snow would keep away and the frost o' nights would have its keenness mitigated. A few days ago I was preparing for the wished-for spring, by going over the borders and making them a little more in keeping with the graces of the early flowers. The last of these days was bright, and in a sunny nook the earliest flowers of *Crocus biflorus* were persuaded by the bright sun to open for the first time of the season, while other clumps of earlier species were all aglow with brightness and beauty. There seemed no appearance of a change, but soon after nightfall snow came on, and when morning dawned the flowers were deeply covered with that dazzling coverlet. Fortunately, the most of the Crocuses had been protected by glasses overhead, so that they will all appear once more, and even now, where the snow has cleared away in the sun, there are a good many opening cheerily under their little hand-lights.

In a snug corner shines a golden sheen from the flowers of *Crocus ancyrensis*, which escaped in an astonishing way. My little hand-lights were all taken up by others, and it seemed so safe in its cosy nook that one deemed it hardly worth while to protect this

READERS are requested to send notices of Garden Appointments or Notes of Horticultural Interest, intimations of Meetings, Queries, and all Articles for Publication, officially to "THE EDITOR" at 12, Mitre Court Chambers, Fleet Street, London, E.C., and to no other person and to no other address.

clump otherwise. When I looked out on the snowy scene at daybreak I thought regretfully of these golden flowers, and pictured them crushed under the snow, and their beauty gone for the year. They were safe, however, under the shelter of a great bush of the old double Wallflower which crowned the rockery above, and was so borne down by the weight of snow that it formed a protection for the Crocuses beneath. As the snow melted from the bush, and it partially recovered its upright position, the Crocuses appeared—a welcome sight of gold amid the white around. Needless to say, they were not long left unprotected, and now they give a daily welcome to the bright rays which try to modify the inclemency of this February day. There, too, are the pretty whitish flowers of *C. Fleischeri*, one of the earliest of the season with me this year, opening to these rays day after day, happy in their little tabernacle. A little off is *Crocus Sieberi purpureus*, a fine dark form of the charming little *Sieberi*, whose flowers are yet covered over with that white which contrasts so well with these pale purple flowers. Near it, again, is *Colchicum Ritschi*, a flower to be sought for and prized, as ushering in January with its pale rose flowers, which keep coming on until March comes. Further away, again, a small glass covers my solitary specimen of still another variety of *Crocus Sieberi*—a beauty called *lilacinus*, as yet scarce and dear. Elsewhere, again, is a *Crocus*, sent to me as *C. Crewei*, but which seems to be a black-anthered form of *reticulatus*. Shrouded in snow are many others in bloom, in bud, or awaiting their awaking time.

Snowdrops were plentiful, and where snow has grown thin they are appearing through its covering. Yet they are forlorn, and droop, not only their pure blossoms, but lie almost, or quite, prostrate, as if overcome with the severity of the frost, the hardest of the year. Their beauty is eclipsed, but it is only an eclipse; and, like the sun, they will again show their chaste charms and fascinating beauty. There are many in bloom, from the common *nivalis*, the globular *Elwesi*, the recurved-leaved *plicatus*, to the great flowers of *Imperati Atkinsi*; while *Melvillei*, one of the most beautiful of all, is peeping through. These “pendent flakes of vegetating snow” are so lovely that we grudge the days of cold which cut off from us the full realisation of their beauty. And soon shall we have plenty of the charming Snowflakes, for we see the white segments appearing through their green spathes, and when the frost and snow disappears we shall welcome their fine bells, whose charm is so delightful that we can hardly pass them by without turning up some to see the inner beauties of the flowers we call Spring Snowflakes, but which the botanists term *Leucojum vernum*. White as driven snow, and decorated with green or pretty yellow spots, this Spring Snowflake is a flower to be desired and cherished.

Nature's alchemist surely excelled himself when from these rough and shapeless little tubers, fed by the dark earth, he produced these little yellow, green-ruffed flowers, which were so bright a few days ago, and which will again shine with gold when they are free once more. They are gay and bright in that dull corner, and are that “light in a cheerless place” we welcome gladly in these winter days. The Christmas and Lenten Roses are deep under snow, but some were in bloom, and were very welcome with their white or rosy-tinted flowers. They will recover again, and we shall have them for a time in the shady place in which they are grown here.

Frosted are the flowers of *Prunus Davidiana*, which first opened about January 18; but there are plenty of buds still which will open when a milder time comes round again. No more charming little tree or shrub have we than the fastigate variety of *P. Davidiana alba*, whose white flowers are so prettily arranged along the leafless branches. The red or pink variety is not nearly so attractive, though one would rather have it than none. I think I have never seen *Jasminum nudiflorum* do so well as this winter. Long before New Year's Day it came into flower, and even now it shows plenty of its golden stars, though they are frosted over by the white hoar-frost, which has been so thick for a night or two. There are many beautiful sights around; mountain and seacoast, woods and gardens, trees and shrubs, all delightful in their snowy garb. Yet the heart of the gardener longs for its passing away, so that he may enjoy his flowers and tend to their wants, rejoicing in their loveliness the while.—S. ARNOTT.

The Bothy.

Two of our contemporaries have opened their columns recently to a discussion of this subject. It is one whose claims to notice is fitfully considered; there has been no systematic agitation (we may use the word) to ensure a full and thorough ventilation of the unfortunately numerous points in regard to bothies that call for reform. “One half the world knows not what the other half does.” Were the true conditions of a large number of bothies revealed to what is termed “The Public”—apart from the gardening community—we feel sure “The Public” would be astounded. Happily there are also a large percentage of very comfortable bothies. But when young men are huddled together, as under gardeners are in more cases than it is agreeable to reflect on, in “bothies” that are a very great deal less comfortable than barrack rooms, and without the privilege of a separate bed to rest in at night, when the same young men have to maintain these dwellings clean, make their own beds, cook their own food week-day and Sunday, mend their own clothes, and work from 6 a.m. till 6 p.m. in summer, from dawn till dusk in winter—can anyone expect from them that intelligence compatible with the needs of an all-round gardener? Can anyone expect such men to develop habits of study—of reading, thinking, correct speaking and writing, or to become valuable members of the community, or so useful to their present or prospective employers as they might be? If yes is the answer, then truly the men in such conditions must needs be all of Cobbett's calibre and temperament—which is not so. A few descriptions of the neglected bothies would surely draw the attention of owners of the gardens to this important matter, and if the publication of letters which may be sent to the Journal on this subject will tend to improvement, in even one or two instances, the present appeal will not have been vain. Examples of what the ideal bothy should be may not be less necessary.

The Witch Hazels.

In late autumn and mid-January, should the weather prove mild, the usefulness of the small though extremely interesting genus, *Hamamelis*, is brought strongly before our notice. Their bright coloured, freely produced blossoms would make them of value at any season, but braving as they do the storms and weather variations of our English winters, they are doubly welcome, and every garden of note should number them among its occupants. The genial weather of the first fortnight of 1902 has suited them to perfection, and they are now a mass of blossoms.

The number of cultivated species is variously numbered at three and four, some authorities making arborea a variety of japonica and some according it specific rank; whichever is correct, it is distinct from a garden point of view.

The oldest known species is *H. virginica*, the common Witch Hazel of North America. It was introduced in 1736, and forms a dense shrub 6ft to 8ft high, with obovate, sharply toothed leaves, and small pale yellow blossoms, which are borne any time between the months of September and February. It is inferior to the others from a decorative point of view, and is often used for stocks on which to graft the other species.

H. arborea is a taller growing, looser habited plant. It grows to a height of 20ft, and when on its own roots quickly forms large specimens. The flowers are deeper yellow and larger than those of the American species, and are also distinct by reason of the rich, reddish brown calyces and twisted petals. *H. japonica*, like the former, is a Japanese plant, and is distinguishable from the above by its dwarfer habit, narrower petals, smaller flowers, and green and brown calyces. Though inferior to the former, it is worthy a place in the garden.

H. japonica var. *zuccariniana* is quite distinct from the others in colour, the flowers being of a pale lemon colour, the calyces reddish brown. It is a desirable plant, and worth looking after. *H. mollis* is the most recently introduced species, and is still very rare. It is a native of Western China, and is quite distinct from the other species by reason of its large leaves, which, together with young stems, buds, and calyces, are covered with a dense felty mass of silky hairs—and larger blossoms, which, with the exception of curved tips, are quite straight. The colour of the petals is a clear, rich yellow, and of the sepals a dull brown.

Hamamelis are usually propagated by means of seeds or grafts, and like a rich, warm, not too heavy loam. From their earliness of flowering it is advisable to grant them a sheltered corner, though this is not necessary as regards hardiness. Anyone who goes to the trouble of forming a group of these plants will feel amply recompensed when he sees them in mid-January smothered with their bright yellow flowers.—D. K.

**Lælio-Cattleya × Queen Alexandra.**

The great feature of excellence in this compound hybrid is its massively expansive labellum, which is most richly coloured with intense crimson-purple or ruby-purple, with an orange-coloured disc, behind which there are some reddish markings extending to the base; but the edges of the lip, especially in front, are lilac-lavender in hue, the whole texture being velvety. The sepals and petals are deep mauve, and of the form shown in the

spikes. *Odontoglossum citrosimum* should by now be showing its flower spikes on the tips of the new growth, but it must not be thought that they are not going to flower if they are not showing, for some few plants in a batch will always be late. Do not give a drop of water until they do show.

Calanthes of the *Veitchi* and *vestita* groups, and the beautiful hybrids raised from them, will be starting into growth, but it does not follow on this account that they will need much water. Until the young shoots produced begin to push roots the old pseudo-bulb is quite capable of supplying all the nutriment they want. In fact, it must be patent to anyone that water poured on the compost can do no good; the old roots are all dead, no young ones have been formed, and until this is the case keep the watering-pot away from them.

Thunias, too, will be showing signs of life again, and must be repotted and placed in strong heat. These Orchids enjoy sunshine, heat, and abundant atmospheric moisture, and they must have it if they are going to be satisfactory. They are suitable companions for the deciduous *Dendrobiums*, but will

**Lælio-Cattleya × Queen Alexandra.**

accompanying illustration from a drawing by our artist, Mr. George Shayler. Messrs. James Veitch and Sons, Limited, of the Royal Exotic Nursery, King's Road, Chelsea, staged the plant bearing the flower from which the drawing was made at the Royal Horticultural Society's meeting in the Drill Hall, Westminster, on February 11. On that occasion the Orchid Committee awarded it a First Class Certificate. The hybrid comes from the parentage *L.-C. × bella*, *× Trianae*.

The Week's Cultural Notes.

With the increasing light there will be a decided improvement in the condition of the *Odontoglossums* and other cool house species. To allow them to reap the full benefit, keep the glass clean inside and out, and place the plants on inverted pots, or in some such way, in order to bring them as near the glass as possible. A little trouble in this respect is well repaid by the improved health of the plant and increased number of the flower

stand even more sun. The compost may consist of loam and leaf soil, with chopped sphagnum and crocks added. It must not be kept above the rim of the pots, as a lot of moisture is required in summer, and the base of the old stems must only be loosely covered.

Woodlice and various small insects are more than usually voracious and active at this time of year, and they must be trapped in various ways, or a number of young shoots and flower spikes will be lost. The old plan of slicing off a piece of potato and laying it on the compost is a very good one for most of the smaller fry, while the special traps advertised for cockroaches and beetles are also useful. Any choice or rare specimen showing flower may be isolated by placing on a pan or pot in the centre of a vessel of water, carefully noting that no part of the plant forms a bridge that the insects can pass over. Individual spikes may be protected by placing a small wad of cotton wool at the base of each.—H. R. R.

Entomology.

A New Scale Pest.

Within a recent date, a formidable looking scale, new to Western Australia, has been detected in some of the gardens of that colony. It has every appearance of the insect known as the brown Apricot scale (*Lecanium prunosum* var. *Armeniacum*). The pest is covered with a large amount of waxy material. It is very conspicuous, is easily killed, although its eggs seem uncommonly resistant to the fumes of hydrocyanic acid gas in moderate doses, sufficient, however, to destroy eggs of other scales. First complaints of this scale were of attacking Grape Vines and Pear trees. It has been seen in isolated gardens in Hay Street, Crawley, Claremont, and Leederville. It attacks Grape Vines preferably, and is especially found on the new wood of the season and of the previous year's growth. Pears, Mulberries, and the Osage Orange are also affected. That the pest has been accidentally introduced into Western Australia there is no doubt whatever. It is not known yet to be widespread, and has hitherto been noticed in damp, sheltered spots only. It is feared, however, that it may prove a serious pest on the Grape Vines of the State, hitherto remarkably free from insect pests. The infested gardens are under treatment, and the scale has already been eradicated from several of them.

Trap Lanterns

Two trap lanterns for insects were set up in the grounds of the Ontario Agricultural College, reports "American Gardening" and kept burning from June 7 to September 7. The insects captured were taken out and identified every morning. Following is the result of the captures:—

	PER CENT. OF ALL TAKEN.
Inchneumon flies	70
Lady-birds	24
Ground beetles	1½
(The above are decidedly beneficial insects.)	
Dung beetles	6
Mosquitoes	5
Fire flies	24
Crane flies	1½
May beetles	5
Squash bug	2
Cucumber beetles	2½
Codlin moths	0

"If all these were in operation for four months, probably forty millions of decidedly beneficial insects were captured and destroyed," says the reporter. Prof. Lawrence Bruner recently reported to the Nebraska State Horticultural Society that he had used two traps in experiments in an old orchard last August, catching a great many insects some 15,000, many of them injurious species. But among this number only seven were Codlin moth. He was forced to conclude that the moth trap was of no use as a protection against Codlin moth and Colorado Potato beetle.

The Lackey Moth.

At this season occurs one of the opportunities of which the gardener should take advantage, to prevent the occurrence of one of the worst ravagers of his trees—the caterpillar of the Lackey, or Barred Tree Lackey Moth (*Bombyx neustria*). This insect is a striking illustration of the trouble and confusion caused by changing scientific names. Stephens and Curtis call it *Clisiocampa neustria*; Kirby and Spence call it *Trichoda*; Latreille and Ormerod, *Bombyx*; Oelsenheimer, *Gastropacha*; and Leach, *Lasiocampa*. The eggs of this insect may now be detected easily, in broad bands round the twigs of our Pear, Apple, and other trees. They are arranged with such admirable art, that they seem set by the skilful hands of the jeweller. Each bracelet, as the French gardeners call it, contains from 200 to 300 eggs, fastened by their ends, in a series of from 15 to 17 close, spiral circles, round the twig. The spaces between the eggs are filled up with a tenacious, brown gum, which protects them from inclement weather, as well as from all attacks, except those of man. The eggs, thus placed, look like a ring of seed-lac, and we think its name may have been thence derived; they are easily crushed by the gardener's knife. The caterpillars congregate early in the morning, or during rain, in large nests at the forks of the small branches, and are then easily crushed. They enter the chrysalis state at the end of June, and then they are to be found in cocoons, or oval webs, powdered with white or yellowish dust, between two leaves, &c. The chrysalis, or pupa, is longish, and dark brown, in which state it remains for three weeks or a month. The insect flies only at night, and consequently is rarely seen. It often appears in considerable numbers, and does not confine its ravages to fruit trees, but attacks many other trees—such as Beeches, Elms, Poplars, Oaks, and even Pines. In May, when

the caterpillars are living in society, the nests containing them should be collected and destroyed. Care must be taken when collecting the nest, for if the caterpillars are much disturbed they let themselves down to the ground by means of a thin, silken thread, and escape. In July their cocoons should be looked for on the trees, between the leaves in the roofs of sheds, in hedges, and even on the tops of walls.

Spring Planting and Pruning.

The ravages perpetrated by birds among Gooseberry and Currant bushes during the winter months are mainly the cause of cultivators deferring the pruning of the bushes until the end of the present month. The adoption of spring pruning is a good plan where no protection is given so as to thwart the feathered marauders, because the attacks on the buds must be very persistent and thorough if every shoot is wholly denuded of buds. The points of

Raspberry Canes

which have been left unpruned until severe weather is over, may now, or shortly, be cut back to the height of the stake or trellis, pruning to ripe wood. Shorten newly planted Blackberries and Loganberries closely to the ground. The first season after planting the canes could only produce an indifferent crop if left, hence it is best to ensure a strong growth of shoots for the following season. Crowded

Orchard Trees

ought to have the branches thinned and a good balance of growth ensured, also re-arrange crowded wall trees while buds are still dormant. The general pruning and thinning of all fruit trees and bushes should be completed forthwith. In pruning away large limbs or branches pare the cuts smoothly. This is necessary, not only for appearance, but to prevent the setting in of decay and disease as well as insect pests.

Gooseberries

The amount of pruning required by bushes depends largely on their condition as regards growth. If the bushes are large or even of medium size, but the centres are crowded with intercrossing and interlacing branches of young growths, it is obvious that this part must be freely thinned out. Branches or shoots descending to the ground may be discarded, as they obstruct a free circulation of air, and help to encourage the establishment of perennial or annual weeds, for cultural operations with the hoe cannot so well be carried out. The spring pruning of Gooseberry bushes is mainly confined to thinning, leaving the shoots retained at full length. Good buds are usually to be found on these shoots towards the points, even if birds may have cleared the base. Where the young previous year's growths may be so numerous that a considerable reduction in number is desirable, all may not be cut out entirely, but some can be shortened to form spurs, providing there are buds at the base which will warrant this being done. Cut away entirely extra strong growths as well as suckers springing from the base of the stems. The pruning of Gooseberries on walls and fences is usually practised on the spur system, the side shoots being cut in to within half an inch of their base. If this has not been carried out previously it may be done now.

Red and White Currants.

Birds are often very troublesome to these, especially when they remove buds from young growths required for extension, which renders it difficult to properly produce shapely bushes. The manner of pruning both bushes and trees on walls and fences is the same. Main branches are formed five or seven for a bush, and single, double, or triple cordons for walls or fence training. Cut in the side shoots to the basal buds, or to within half an inch of the base. Leading growths, when sufficiently extended, are also cut closely in; but during the extension of the main branches the leading growth may be left each year about 9in in length, or one-third its whole length. Old-established Currant bushes may require some of the branches renewing, hence it is good practice to occasionally cut down entirely any branches that show signs of weakness, and allow their places to be taken by strong basal growths, shortening them back each season so as to admit of 9in of young wood to be retained, and encourage side shoots to push, these, of course, being spurred in the next season in the usual way.

Black Currants.

The pruning of Black Currants is readily carried out. They are only grown as bushes, and not on walls and fences. The best bearing growths are the strong shoots of the previous year, therefore a good selection of these should be retained, cutting out the old bearing wood, and any other useless branches, which crowd or spoil the bushes. Treatment on these lines annually will maintain Black Currants in good condition for many years.—D.



Chrysanthemum Lady Ridgeway.

I notice in Mr. Wells's notes on the Chrysanthemum audit in last week's *Journal* that he gives Lady Ridgeway as an American variety. I wish you to contradict this, as it was raised as a seedling by myself, and sent out by Mr. R. Owen, of Maidenhead. It was named after Lady Ridgeway, whose husband, Sir West Ridgeway, was then Governor of the Isle of Man.—R. W. DOUGLAS, Parkfield Gardens, Douglas, Isle of Man.

High-priced Apples.

In an earlier issue of the *Journal* a correspondent related how some very high prices were paid this winter for British Apples as well as those from other lands—Newtown Pippins. In Bristol and Bath fruiterers' shops I saw recently Californian Newtowns retailed at 3d. each, the quality of which I was permitted to sample, only to find that in flavour and crispness they were far inferior to the same and other kinds I am able to send daily to the table. I had heard much of Californian Apples, the criticism being ranged about equal for and against them, but the quality of the fruit, as proved, add still more to the wonder that the British public are content to pay such exorbitant prices for goods infinitely inferior to the produce of their own country. The Californians come over, each separately wrapped in paper, and this is displayed by the fruiterer as showing the brand to be of high class. The colour of the fruit does not develop so brightly as in British Apples, though the country has in the matter of sunshine an advantage over us. The gain of sunshine and length of days, however, does not account much for colour and flavour in Apples, because in neither does it compare with those of English growth. West of England fruit shops are usually well supplied with native Apples, but so early in the winter as the first week of February there were but very few on offer. This scarcity, which has been a marked feature of the season, is all in favour of imported samples. With the absence of good samples of English fruit, the palate of the purchasing public becomes accustomed to a lower grade, and salesmen are almost unconvinced that there is still a better than the Californian Apple in the British fruit stores—at least those who are favoured with a supply.—S. W.

Seakale, Beddard's Improved.

Without the slightest doubt, Lilywhite Seakale is worthy of all that was said in its favour in the *Journal of Horticulture* on January 9. The variety that we find far superior in every way is Beddard's Improved. This sort has been grown in the Stoneleigh Abbey gardens for a great number of years, and has never failed to maintain a regular supply of clean tender heads of large size. For forcing it is unsurpassed, being a beautiful colour and splendid flavour, and as Seakale forms an important vegetable during the winter months, these two good qualities render this variety invaluable. It also produces larger and finer heads than Lilywhite under the treatment it receives at Stoneleigh. Whether the improvement is due to the nature of the soil here suiting the variety I cannot state. If anyone finds the former sort unsatisfactory I can strongly recommend a trial of Beddard's Improved. It thrives exceedingly well here under the following culture:—The sets are planted out the beginning of May in medium sandy soil, light and porous, the distance given in the plantation intended for growing crowns for forcing being 18in each way. The crowns that are forced outside are only allowed one foot, triangled in two rows, keeping all weeds down during the growing season by the use of a Dutch hoe. When all the foliage has decayed lift the crowns, trimming all the roots off, storing them away by laying them in soil and covering with some long litter or bracken until required for forcing. The sets are made directly afterwards, heeling them in in rows, covering them with soil until the time comes to plant them in their summer quarters. For inside forcing a bed of tan is made up in the Seakale house with the aid of a gentle bottom heat by hot water pipes, and gives a good result. The crowns outside are excluded from the light by the old manure from a Mushroom house to the depth of 2 feet. This is put on in the month of December or January, and by this process we are able to cut Seakale outside by the end of March or the early part of April to succeed that forced indoors. All manure should be cleaned away as soon as the Seakale is cut, otherwise it encourages weak, sickly growth, that weakens the crowns for the second year's forcing, and this gives excellent results if proper attention is paid. A single stick often weighs

above a pound; in fact they resemble sticks of Celery more than Seakale. Messrs. Veitch, of Chelsea, have a fine stock of the variety under notice.—W. JONES, Stoneleigh Abbey Gardens, Kenilworth.

Scented Persian Cyclamens.

Apropos of "W. I.'s" interesting announcement (page 163) relative to scented Cyclamens, it has often puzzled me to know why there are comparatively so few plants out of a large batch of seedlings that possess the much desired property of scent. Surely, as regards size and colour of the flowers, also of foliage, the acme of perfection has long since been attained; but why the corresponding paucity of scent? Can it be owing to the effect of high cultivation? The suggestion is prompted by a consideration of the fact that upwards of half a century ago scented varieties were commoner than at the present time, and during my boyhood the scented Cyclamen was my ideal of a perfumed flower. It is, however, most gratifying to learn that Messrs. Sutton are striving to invest some of these beautiful varieties with so welcome a desideratum, and that ere long they may be enabled to say "Eureka!" I may add, regarding scented and scentless varieties, that, contemporaneously with several others, in the year 1731 the red and white coloured varieties "inodorum" and "odoratum" were introduced from Cyprus.—W. G.

New Chrysanthemums.

"H. S., Woking," in commenting on my seedling Chrysanthemums on page 164 of the *Journal* last week, questions their origin and parentage. Please let me say that the whole were from seeds fertilised and saved by myself mainly, the parents being Master H. Tucker, from which I consider much of the colour and constitution have been obtained, M. Chenon de Leché, Oceana, Edith Tabor, and pollen from a few of the best kinds. Seedlings from Mrs. Weeks invariably are of a tall, lanky habit, reminding one much of a batch I once raised from Mrs. Alpheus Hardy. Madame Carnot seedlings have here always proved disappointing. There is much in what "H. S." says as to blooms being especially well grown for certificates. I can only say that all blooms I have shown this season were grown in the Exmouth Nurseries, and as frequently several hundred blooms of the seedlings were put in one exhibition, it cannot be said that they were "specially grown for the much coveted F.C.C."

AMERICAN V. ENGLISH VARIETIES.—"A. W. T." (page 167) claims for our home raisers the incurved variety Mrs. Egan. This is an American, but has been renamed by a firm, "Countess of Warwick."—W. J. GODFREY, Exmouth.

The Chrysanthemum Audit.

Mr. W. Wells is hardly correct in one or two statements which appear in his interesting notes on page 164 of the *Journal of Horticulture*, February 20. Regarding Lily Mountford variety, Mr. Weeks had no more to do with raising this than Mr. Wells; neither is it an English variety, inasmuch as it was raised from imported seed. Nor is it correct to say that it should be "Hilda Chamberlain," although at one time it bore this name in a certain district. It has been in several growers' hands for many years past. However, it is a good sort, and we will not quarrel over its introduction or its original name. Then as to the variety Mrs. Mease. There is no need to haggle over the origin of this, for I believe the sport originated in many places in one season. I can equally lay claim to introducing this variety as Mr. Wells, for I had a separate stock. Mentioning sports, many growers will be glad to learn that there is talk of a pure pink sport of the colour of N.C.S. Jubilee, from that fine variety Florence Molyneux. Let us hope that the report is a correct one, and that it will be well shown before being sent out. Madame Phillipe Rivoire is not one of M. Calvat's seedlings, and has never been catalogued by him. It was sent out by Rosain Bouchardet. Then, Pride of Midford was in this part some time before offered by Messrs. Cannel, and was known and shown as "Beauty of Teignmouth." I well remember Mr. E. Molyneux disqualifying an exhibit at Exeter shown by Mr. George Foster, the contention being that the exhibit contained two "Duke of Yorks." Messrs. Hannaford and Son may be said to have been the distributors. Again, is not Sir H. H. Kitchener one of Brunning's? Sir Herbert Kitchener was introduced by the late Mr. Owen, and it is to this variety, no doubt, that Mr. Wells is referring to.

Coming to the "Audit," it is a remarkable fact that of the fourteen novelties mentioned among the Japs, thirteen are from English raisers, and the solitary exception is a colonial variety with only one vote. Mr. Wells also calls attention to sports. Why they come no one seems to know. I had a peculiar one last season among a batch of seedlings. One half of the plant was of a rich bright rose colour and the other a pretty coppery scarlet. Both are distinct, and worth saving as decorative varieties, and I hope to introduce them next season.—W. J. GODFREY, Exmouth.

NOTES

NOTICES

Royal Horticultural Society.

Sixty-eight new Fellows were elected at the Drill Hall meeting on Tuesday last.

Sale of a Border Estate.

The estate of Hillend, near Reston, Berwickshire, extending to upwards of 500 acres, has been bought by private treaty by Mr. Denholm, of Press Castle, from Mr. Mack, of Coveyheugh.

American Export Apple Trade.

The total shipments to European ports during the week ending February 1, 1902, were 34,691 barrels, including 4,463 barrels from Boston, 6,150 barrels from New York, 7,009 barrels from Portland, 16,380 barrels from Halifax, and 689 barrels from St. John, New Brunswick. The total shipments included 15,839 barrels to Liverpool, 13,701 barrels to London, 4,841 barrels to Glasgow, and 1,110 barrels various. The shipments for the same week last year were 52,873 barrels. The total shipments since the opening of the season have been 664,477 barrels, against 1,199,604 barrels for the same time last year. The total shipments this season include 134,230 barrels from Boston, 121,531 barrels from New York, 67,803 barrels from Portland, 122,406 barrels from Montreal, 213,780 barrels from Halifax, and 4,727 barrels from St. John, N.B.

Cardiff Gardeners' Association.

At a meeting held at the Grand Hotel, on Tuesday, February 18, Mr. J. J. Graham delivered a lecture, entitled "Some Useful Plants for Winter Flowering." The chief subjects mentioned were Cyclamen, Bouvardias, Begonias, and Poinsettias, giving every detail to grow them successfully. The best thanks of the association was accorded Mr. Graham for his able lecture. The Chairman announced that on March 4 Mr. Donald Sutherland, electrical engineer to the Cardiff Corporation, would give a lecture, entitled "General Outline and Management of Electrical Storage Batteries (such as are installed in private residences)." This is a new departure, and arranged as a benefit to those gardeners who have a compulsory charge of a private electrical plant.

Fruit to Australia.

The Orient Pacific Company, reports the "Liverpool Journal of Commerce," has issued a circular offering to take fruit and vegetables to Australia at a rate per box. The boxes are not to be larger than 2ft 10in cubic measurement, and half-boxes are to be allowed if they do not exceed 1ft 5in. The freight to Fremantle is to be 5s. per box, and 2s. 9d. per half-box, and to the other ports 4s. 3d. and 2s. 3d. Arrangements will be made for the transshipment of boxes to such Australasian ports as the company does not call at. It is quite likely that this may be the beginning of an important trade with the colonies, as though Australia produces a larger amount of fruit on her own account, the seasons here and there are interchanged, and Italian fruit will come in when their trees are not in bearing.

California's Fruit Resources.

The fruit resources and exports of California are well set forth in the annual Harvest Number of the "Pacific Fruit World." It is shown on the basis of the crop shipments for the year 1900 that the fruit and vegetables raised in California for the eastern or foreign markets equal in a single year about 50,000 carloads of ten tons each, or 500,000 tons; or, to carry it still farther, one billion lbs. Of this amount, the Citrus fruit shipments compose about half; fresh fruit about 10,000 carloads; cured fruits as much more; canned fruits about 8,000 carloads; Raisins between 3,000 and 4,000 carloads; vegetables, fresh and canned, over 5,000 carloads; wine and brandy, 10,000 carloads; Walnuts and Almonds, nearly 700 carloads. This production is worth more than the gold taken from the mines of the Golden State, and the wealth produced is more widely and evenly distributed. This, too, is but a single item of the many resources of the great State. It does not take into account the grain, the lumber and the many other vast industries contributing to the welfare and prosperity of California.

Rose Show Fixtures.

Mr. Mawley, hon. secretary of the National Rose Society, kindly sends us a list of the Rose Show fixtures he has so far received. These will be found in our general fixtures list in the back pages.

Appointments.

Mr. E. D. Smith, late head gardener at Sway House, Lymington, Hants, has succeeded in obtaining the post of head gardener to the Gravesend Corporation, and takes up his duties on March 3. * * Mr. E. G. Creek, late foreman at Woodbridge Nursery, Ipswich, as head gardener to A. Fraser, Esq., Westerfield House, Ipswich.

Weather in South Perthshire.

Frost gave way on the latter part of the 18th, and since then the weather has been dull and cold, with a good deal of drizzling rain. There was, however, comparatively little thaw, as the thermometer rose very little above 32deg till the evening of Sunday, which was milder. Rain fell all day on Monday, with the thermometer at 41deg.—B. D., S. Perthshire.

Droitwich Experimental Garden.

The sixth annual report of the above for the year 1901, and second annual report of the County Instruction Gardens in the County of Worcester, is newly issued. The numbers of varieties of fruit trees and their names are tabulated, showing 78 sorts of Apples, 47 of Plums, 35 of Pears, 13 of Gooseberries, the same amount of Strawberries, 11 varieties of Currants, and 9 of Raspberries. The treatment of the fruit trees in regard to style and time of pruning, lining of the soil, manuring, and notes on the forms of the trees, the kind of stock used, when the fruit was gathered from each variety, also its weight and quality, are points one finds carefully reported upon. Mr. James Udale, the chief horticultural instructor for Worcestershire, who is responsible for the report, has produced a very interesting and useful summary of the year's work.

Moffat Trees Action.

Sheriff Fleming, on the 17th inst., issued his judgment in an appeal by the heritors of Moffat, N.B., against a resolution of the Moffat Town Council to cut down five old Lime trees on the side of the public street opposite the Parish Church. The removal of the trees had been resolved upon as part of a scheme for improving the roadway. Sheriff-Substitute Campion in October dismissed the appeal, holding that there was not sufficient evidence to instruct the heritors' claim of property. Sheriff Fleming has now reversed that judgment, finding that the onus of proving ownership lies on the Town Council, who have failed to prove that it does not belong to the heritors. His Lordship observes that, if for reasons of public safety the Council desire the removal of the trees, they must proceed under other powers than those which they seek here to exercise.

Crops of 1901.

The usual monthly meeting of the Royal Meteorological Society was held on Wednesday, the 19th inst., at the Society's Rooms, 70, Victoria Street, Westminster, Mr. W. H. Dines, B.A., president, in the chair. Ten new Fellows were elected. Mr. E. Mawley submitted his report on the "Phenological Observations for the Year 1901." He showed that, as affecting vegetation, the weather was chiefly remarkable for the scanty rainfall during the growing period of the year. The deficiency was not confined to any part of the British Isles, but was more keenly felt in the English counties than in either Scotland or Ireland. Wild plants came into flower very late, but not quite as late as in the previous phenological year, which was an exceptionally backward one. The swallow, cuckoo, and other spring migrants were as a rule rather behind their usual dates in reaching these islands. The crops of Wheat, Barley, and Oats were all more or less above average in Scotland and Ireland. On the other hand, in England, although there was a fair yield of Wheat, that of Barley and Oats was very deficient. Hay proved everywhere a small crop, and especially so in the southern districts of England. Beans, Peas, Turnips, Swedes, Mangolds, and Potatoes were all more or less under average in England, but either good or fairly good elsewhere. The yield of Hops proved singularly abundant. Apples, Pears, and Plums were below average, especially Apples, but the small fruits as a rule yielded well. Taking farm and garden crops together, seldom has there been a less bountiful year.



New Incurved Varieties.

By the addition of several new varieties of a superior order of merit, and by a general improvement in methods of culture and staging, it cannot be doubted that there has been a distinct advance made in the incurved section of Chrysanthemums, during the last two years especially. Some of the recent additions may not be so near to the standard defined by the National Chrysanthemum Society as is Lord Leicester or Princess of Wales when seen at their best, but with care in the selection of correct buds, perfect development of the flowers, and an advance in methods of staging, I think there is still a distinct future for this section of the Chrysanthemum. The raising of new varieties is almost confined now to English cultivators, and these depend much more upon hybridisation and the raising of seedlings than they do upon "sports," which at one period was the only way we had of obtaining a new variety.

If raisers were a little more careful of the manner of manipulation in cross fertilisation even at the present day we should see an even better type of flower; there is too much Japanese blood imported into the work, with a view, no doubt, of obtaining brighter colours and size also. Unfortunately, there seems to be no fixity of purpose; it is all very much a lottery, like "sports." No one can command a sport, neither can they control sufficiently the seed pod. In time we may, perhaps, see better results. What I term the recovery to form of such varieties as Queen of England and its sports is quite outside the possible; in that case we must look to the newer varieties to maintain an interest in this, at one time, very popular section.

The following varieties are certainly an acquisition if cultivated properly:—

MRS. F. R. JUDSON is best described as a pure white Curtis, possessing as it does all the characteristics of that charming variety, differing only in colour.

MRS. C. CROOKS is a pure white flowered variety with pointed petals; here and there some are notched and covered at the tip with short hairs, which, perhaps, detracts somewhat from its appearance. In spite of this defect it should become a popular variety.

PEARL PALACE.—I do not know the origin of this variety, but its fine quality easily commends itself. Full sized blooms are easily produced; the florets are of medium width, forming a full handsome flower, white deeply shaded pink.

FRANK HAMMOND is, perhaps, the greatest acquisition of recent years; full sized blooms measure fully 5½ in. in diameter, and consistently deep. The broad petals incurve thoroughly, building up a typical flower. The colour is pleasing. Young blooms have a dull red centre, the florets are edged with gold; older flowers show a little less colour, yet are especially pleasing.

FRED PALMER is pure white of medium size, very neatly formed.

MR. F. KING is a promising variety, with rosy lilac florets, which are striped with a deeper tint.

HENRY ELLIS is best described as an improved Venus, which it partakes of in habit of growth and its foliage also. It is a pure white flowered variety.

GOLDEN MADAME FERLAT is an exact counterpart of its parent, Madame Ferlat, which was a French raised variety in the year 1900. The new-comer may be a "sport," it certainly is an acquisition, and should be secured by all.

COMTESSE D'ETOILE is of a rosy lilac pink colour, very promising. FRANK PAYNE has just the kind of petals required to build up a full handsome bloom. The colour is pleasing, bright red inside, with a reverse of cinnamon shaded gold.

NELLIE STEVENS produces blooms fully 7 in. in diameter; these, if neat, full, and fresh, would be a grand addition as a back line flower. The colour is quite pleasing deep amber. With care in selecting suitable buds this should be a distinct acquisition.

MRS. W. HOWE, rich golden amber or cinnamon, a full deep bloom. MRS. W. HARVEY has creamy white florets which are, perhaps, a trifle too pointed to please some, still it is an acquisition which all cultivators of this section should secure. MR. E. BENNETT has broad florets, rose lilac in colour.

MDME. VERNIEUL belongs to the slightly hirsute section of rosy lilac colour. CREOLE reminds one much of Refulgence, with its claret or maroon coloured florets.

THOMAS LOCKIE is not, perhaps, quite new, but it deserves extended notice; it produces deep and good blooms, white flushed rose lilac in colour.

WM. HIGGS is a massive flower with broad florets of a gold buff tint of colour. E. HUNT has long, broad, and neatly incurving florets possessing much substance, colour deep lilac pink suffused with white.

C. BLICK produces blooms after the style of Lady Isabel, in colour white tinted rosy violet.—E. MOLYNEUX.

Planting Potatoes.

A commencement may be made in planting main crop and late varieties of Potatoes. Well pulverised ground that is not in a wet condition may be considered suitable for present planting. The work is rendered easier when the ground is fairly dry, because then the drills can be drawn out in a clean state. A depth of 4 in is suitable. The distance between them must vary according to whether the varieties produce strong or weak haulm. Two feet asunder will do for ordinary varieties, and 2ft 6 in for the strong-haulmed sorts. The distance between the sets may run from 12 in to 18 in, the latter for the very strong growers. Reliable varieties of Potatoes to grow are Sharpe's Victor, an early Potato of excellent quality and dwarf habit; Early Regent, a superior white-fleshed variety, an excellent cropper. Early Puritan is a similarly good variety, flattish round in shape, and produces well. Among the second earlies Schoolmaster stands in a leading place. Grown under good conditions the tubers are mealy and cook snowy white. Windsor Castle should be included, as it is a good cropper, and the tubers are of superior quality. They are white and flattish round in shape. As a red-skinned variety, Reading Russet is one of the best. Main crop Potatoes should include the Bruce, which is a heavy cropper and keeps well. The selected and improved forms of Magnum Bonum cannot be surpassed for flavour, size, and productiveness grown under fair and liberal conditions. Up-to-Date is a variety that now takes high rank as a choice main crop variety. As a rule it is an excellent cropper, producing tubers of liberal proportions, which keep well. Emperor is a white round main crop variety, also a heavy cropper, and of superior quality. Satisfaction is a popular sort, not only for exhibition, but for general use. The tubers are of fair regular size, the skin being rough. It is of good quality, and is a free cropping variety.—D. S.

Cucumbers: Plants in Bearing.

These should be examined once or twice a week for the removal of bad leaves and exhausted growths, thinning the shoots, stopping and clearing them of old or deformed fruits. The thinning of the shoots and encouraging young in place of spent growth is the way to keep the plants in continuous bearing. Stop the growths a joint or two beyond the show of fruit, but avoid overcrowding. In securing the shoots to the trellis do not tie them too tightly, but allow room for development. Plants that have been in bearing for some time will be greatly benefited by removing a portion of the surface soil without injuring the roots, and supplying warmed, fresh soil. Turfy loam, with a fourth of well decomposed manure, and a 9-inch potful of wood ashes, and half that quantity each of soot and superphosphate added to each large barrowload (three heaped bushels) of loam, will answer, and is best where the materials are readily comeatable; or turfy loam alone may be used, sprinkling over it a good handful (3oz or 4oz) of the following mixture per square yard: Bone superphosphate, dry and crumbling, three parts; powdered saltpetre, two parts; and ground gypsum, one part. Mix and keep in a dry place. Maintain the bottom heat steadily at 80deg, the night temperature at 65deg to 70deg (5deg less in severe weather), 70deg to 75deg by day, rising to 80deg to 85deg or 90deg from sun heat, and closing early in the afternoon, so as to run up to 90deg, 95deg, or 100deg, damping the paths and other surfaces in the morning and early in the afternoon. If the surfaces are dry, damp well before nightfall.

YOUNG PLANTS IN HOUSES.

For these hillocks or ridges should be formed, preferably the latter. The whole length of the bed, about 2ft wide at the base, with the top flattened, so as to give a depth of 10 in to 12 in, the soil being made moderately firm, and, when warmed through, the plants may be turned out about a yard apart, firming the soil about the balls, and raising it a little over the depth the plants were before, but not very much, as this is liable to induce canker; yet the soil may be brought up as high as roots show on the stem. In my experience I have found good turfy loam, laid up sufficiently long to destroy the herbage, mixing with every bushel of the chopped up turfy loam a quart of wood ashes, and a part each of air-slaked lime and dry soot incorporating. These substances have a good effect on larvæ likely to injure the plants, and enrich the soil. Plants for trellises should be trained with a single stem secured to a stick, tied to the lowest wire of the trellis, rubbing off the laterals as they appear until the height of the trellis is reached.

PLANTS IN FRAMES.

In these the growths of the plants are trained over the surface of the beds, the seedlings being stopped at the second rough leaf, and the resultant growths at about every foot of extension. This

gives plenty of lateral growths for bearing, which must not be crowded, and should be stopped at a joint or two beyond the show for fruit. With a protection of double mats over the lights at night, and the linings of the beds properly attended to, the temperature will be maintained at 60deg to 65deg at night. A little air may be given at 75deg, allowing the temperature to rise to 85deg or 90deg with sun heat. If the sun be powerful, and the plants show indications of flagging, shade for a few days. Attend to the linings as required, and protect with a double thickness of mats at night. Do not apply more water than is necessary to keep the plants gently growing, very little being required in pits and frames where the heat is derived from fermenting materials.

RED SPIDER AND WHITE FLY.

Where red spider has appeared on the winter fruiting plants, or white fly is present, coat the hot-water pipes with a cream formed of flowers of sulphur and skim milk, heating the hot-water pipes to as near boiling point as possible without making the water boil for a couple of hours on a calm evening, taking care that the house is kept close; and then allow the pipes and house to cool down to their regular temperature. The foliage must be kept dry, or be so when the hot-water pipes are sulphured and heated. In the course of a few days the same process may be repeated. It is generally effectual against thrips and mildew, as well as red spider and white fly.—G. A.

Plant Notes.

Javanese Rhododendron Princess Royal.

The full and proper title of this section of Rhododendrons is the Javanico-jasminiflorum hybrids; and the variety figured on page 167 is one of the first five that Messrs. James Veitch and Sons, Limited, of Chelsea, ever raised. Princess Royal variety was the first hybrid the firm secured, which was in 1850, and in these earlier days this was of sufficient interest to ensure a Botanical Certificate for Messrs Veitch. The colour of the flowers is pink, with a darker centre. Of course, since that time there



Rhododendron Princess Royal.

The earliest raised Javanicum jasminiflorum hybrid; 1850.

have been larger numbers of grand varieties raised at Chelsea. We need only refer to the beautiful and handsome R. Cloth of Gold figured on page 221 of the *Journal of Horticulture*, for March 14, 1901, and to the lately certificated varieties that have been described in these pages. R. Princess Royal is, however, still a great favourite, and on account of its history it is very interesting. This recent race of Rhododendrons are of such merit that we should like to see them grown in every garden. In the Botanic Gardens at Kew, Edinburgh, and elsewhere, fine collections can be seen in vigorous condition. The plants are apt to get lanky if not tied in. An intermediate temperature and abundance of moisture are requisites to their successful culture.

Saxifraga apiculata.

Of the Kabschia section of the genus Saxifraga the species apiculata furnishes one of the most charming rock plants the hardy plantsman employs. Its stems form dense rosettes thickly crowded with thick linear acute leaves, and produce numerous flower stalks, each bearing from six to nine primrose-yellow flowers, which are bright from this month until February—that is, by successional development. In a great many respects S. apiculata resembles the beautiful ally S. sancta. Both plants are useful for carpet bedding. S. luteo-purpureo, as Mr. Arnott tells us, is a synonym of this species.

Heliotropes from Seeds.

Judging from the fact that there is not often a reference to the raising of these popular sweet smelling flowers from seeds, and, perhaps, a still more rare occurrence to find them so treated, it is not common knowledge what beautiful plants may be had by this mode of culture. Heliotropes have become familiarised by the very select few of very ordinary, though none the less sweet old-established kinds. There are to be had from some specialists quite a goodly assortment of variety, all bearing large and freely branched heads differing in their habit, shape, and colour. On visiting a gardening friend last autumn I received quite an eye-opener in a batch of seedling Heliotropes growing in one of the borders of his kitchen garden. The heads of flower were on many of the plants, I should say, almost, if not quite a foot across, the colours varied, and all sweetly scented. I at once made a resolution to adopt a similar course, though already in possession of at least a dozen varieties named. There is admittedly a great fascination in seed raising in any kind of plant, because in the unfolding of the flowers from day to day one looks for, and often finds, features that are not already possessed in existing stock. This is quite as true of Heliotropes as of other flowers, and I feel fully persuaded that if seedsmen generally supplied a strain of such high character as those I have referred to they would have no lack of admirers and cultivators. It would seem that Continental growers have given more attention to the raising of improved Heliotropes than British hybridists.—W. S.



Saxifraga apiculata.



Flowering Almonds.

The flowering Almonds of the present day are nearly all budded on the Peach. It is the only practicable way to increase them fast enough for the ever-growing demand for them. They are bought by the hundreds at the present day, as against a dozen of a few years ago. Early spring flowers, such as are Almonds, will ever be desired. The shrubs which bloom first are those which sell best, and this insures a steady call for them. Even though not as beautiful as is the Almond, the Cornus Mas and Daphne Mezcreon are also always in demand, because of their early flowers. Almonds force easily, and pretty little bushes in pots make a lovely display. Outdoors they take about a month of growing weather to bring out the flowers. The season opening the 1st of April would see the Almonds in bloom a month later. There are two sorts, pink and white, and it is hard to say which is the better one.—("Florists' Exchange.")

Galanthus Imperati var. Atkinsi.

This is one of the noblest of our Snowdrops, and is now (February 4) in bloom, although not yet at its best, and one waits with some impatience for it showing its true nobility, as it will do in a short time. Tall and imposing—for a Snowdrop—it is worth trying to obtain, and to give it a place where it will have some shelter, to prevent its tall stems from being broken down by high winds. Its only defect, and not everyone will consider it one, is that of often producing additional segments, which give it a curious appearance when its blooms are at an advanced stage of their career, and open out to the early sun of the year. They then remind one of white butterflies "poised for a flight," and certainly look at that time unique in their way. Atkins's Snowdrop is, like all the Imperati forms, only botanically a variety of nivalis, but it has a right to bear the name of both Imperati and Atkinsi, the former because it has the characteristic features of this fine southern form of nivalis, and the latter because of its distinctness, and because it was introduced by the late Mr. James Atkins, of Painswick, who received it "from somewhere in the kingdom of Naples." It has been distributed as G. Imperati, but it is different from the ordinary G. Imperati of gardens. A fine Snowdrop, it is most effective in the garden.—S. A.

Early Muscat Grapes.

Although Muscats are frequently grown with Black Hamburgh and other vinous or Sweetwater varieties, they are far from satisfactory, indeed it is commonly a matter of means, for experienced growers are alive to the facts that they cannot be grown well together, as neither can have full justice. Muscats, especially early forced, require inside borders, and even very early forced are better with bottom heat, for which they pay well, as Muscat of Alexandria, and particularly Canon Hall, in June bring far better prices than any other, and it is the quality of the Grapes, not the quantity, that pays the grower, for the easily grown are produced in such quantities as to glut the markets. The houses that were set to work by the middle of December, have the bunches about flowering, and require a temperature at night of 65deg to 70deg, with 75deg to 80deg by day, closing at 80deg to 85deg, when bright weather prevails. When they commence flowering every bunch should be gone over with a large camel's-hair brush for the purpose of removing the "caps," and then fertilise the same with Black Hamburgh pollen, or preferably Alicante, as the cross of the thick-skinned on the thin-skinned varieties improves the cuticle of the berries, and the oval-shaped sorts better suit the conformation of Muscat of Alexandria and Canon Hall, unquestionably the finest of all Grapes in respect of appearance and quality when well done, than the round berried varieties, which is apt to induce a rounded and somewhat irregular form to oval berried sorts. Cross fertilisation also has good results as regards the swelling of the berries, being a matter much attended to by Nature by the agency of wind and winged creatures, and is well worth practising under artificial conditions of cultivation.—G. A.

The Coronation Flower.

The President of the National Rose Society writes to the "Times" of February 13:—"I venture to express the hope that the Rose, which is the national emblem of England, and the queen of flowers, may be worn in preference, not only at the time of His Majesty's Coronation, but on the anniversaries hereafter. At the date of the ceremony the Rose will be in its most abundant beauty in all the gardens of the land."

Petunias.

For pot culture quite as well as for lawn decoration, both the single and double Petunias are very suitable. Considering the ease with which they may be grown, the beauty and freedom of their bloom, especially in the single varieties, and their long season, it is indeed hard to find any plants better suited to the amateur's needs. To raise pot plants from seeds select your seeds in January and sow at any time up to March. Petunias have the smallest seeds, and in sowing should be covered very lightly. It is a good plan to sow in a pot, covering the pot with glass until the seedlings are up. With the use of the glass less water is necessary, which is an advantage in the case of such fine seed. So soon as the seedlings are up so that they can be handled, they should be pricked out, observes "Vick's Magazine," into a pan, afterwards giving each plant a 2in pot to itself, later shifting on as growth demands.

Hardy Jasmine.

For many years the Jasmine known as "hardy" was the white-flowered one, *Jasminum officinale*; but of late years, observes the "Florists' Exchange," the name is applied to the *Jasminum nudiflorum*. The appellation better fits the last than the first-named, as *J. nudiflorum* is perfectly hardy, which cannot always be said of *J. officinale*. The latter needs a sheltered place, or its shoots are injured, in which case it does not flower. When protected, the flowers come on the growth of the previous season. They are white and slightly fragrant, but not nearly as much so as the greenhouse one, *J. grandiflorum*. The other species, *J. nudiflorum*, is quite hardy. It is well named, as it flowers early in spring, before the leaves; so early, in fact, that late frosts often catch the blooms. The shoots, cut off and placed in a vase of water at any time in winter, expand their flowers quickly, in the way the Golden Bell does, and, like it, it has yellow flowers. There is another one of yellow colour, often met with in greenhouses, the *J. revolutum*. This sort is hardy at Virginia, it is said. It comes from Northern India, as does *J. officinale*, while *J. nudiflorum* is from China. All these Jasmynes root readily from cuttings.

The Food Value of Vegetables.

Tomatoes rouse torpid liver and do the work, ordinarily of a doctor's prescription.

Lettuce has a soothing quieting effect upon the nerves, and is an insomnia remedy.

Celery is an acknowledged nerve tonic, and is more and more used in medicinal prescriptions.

Onions are also a tonic for the nerves, but people will be forever prejudiced because of their odour.

Potatoes should be eschewed by those who "have a horror of getting fat," as that is one penalty of eating them.

Parsnips, it is now contended by scientists, possess almost the same virtues that are claimed for sarsaparilla.

Beets are fattening, and even a moderately learned man will understand that it is because of the sugar they contain.

Ordinary Lima Beans, someone has said, are good to allay thirst, but the same can be said, with equal truth, of a pitcher of water.

Asparagus is efficacious in kidney ailments to an extent that it is not yet, perhaps, thoroughly appreciated.

Cucumbers, aside from sunbeam emitting properties known to readers of facetious paragraphs, contain an acid that is helpful in some cases of dyspepsia.

Parsley will assist good digestion, like cheese and nuts, but a quantity in excess of ordinary capacity has to be consumed. Therein lies the joke.

Pumpkins are an ingredient in a patent medicine that is guaranteed to cure quite a variety of ailments flesh is heir to, but the world is increasing in inhabitants who do not believe all they hear.—E. N. NOYES (in "What to Eat," in the "Queensland Agricultural Journal.")

Cyclamens, Cinerarias, and Primulas at Wordsley.

Passing through the Midlands at a recent date, I made a visit to the establishment of Messrs. Webb and Sons, of Wordsley, Stourbridge, and was well rewarded by a sight of the contents of their glass houses. The firm has been most assiduously engaged for some years past in the improvement of Florists' and other flowers; indeed, their exhibits at the leading shows have testified to their success in this work. On the occasion of my visit Cyclamen, Primulas, and Cinerarias were in the pink of perfection. Two large houses were devoted to Cyclamens, and the mass of bloom produced a wonderful effect, relieved as it was by the dark foliage. Webb's Perfection strain is rightly named. The plants are of dwarf habit of growth, producing flowers in a great variety of colours and in abundance. Webb's Vesuvius and Rose Queen are two new introductions of very pleasing appearance. The former has brilliant red flowers, and the latter most delicate rose; both are of good form and size. But perhaps the most remarkable variety of all was Webb's Mont-Blanc, the plants of which are strong and compact, bearing extra large blooms of more than ordinary substance.

Over 1,200 plants of Webb's Superb Cinerarias were also to be seen; a good proportion being in bloom. The flowers comprise an astonishing range of colour and form; brought to the highest perfection by the careful hybridisation and selection that has for so long been practised. It would be well-nigh impossible to describe the innumerable and exquisite colours that are contained in a house of these indispensable spring flowers. The Primulas, too, were at their best a week or two ago, but there was still plenty of bloom to enable one to judge of the varieties and strains that Messrs. Webb possess. Webb's Snow Queen and Purity are exceptionally fine ones; the former is a giant Chinese Primula, producing very large trusses of immense white flowers, which rise well above the foliage. Purity is also a giant white Primula with a clear sulphur eye, the flowers measuring 2in and more in diameter, and elegantly fringed. Modesty is a chaste variety, the flowers when commencing to open being pure white, but they change to delicate pink when expanded.

As time was limited, I had reluctantly to leave the glass houses, and passing over to the colossal warehouses, I saw the preparations for Messrs. Webb's farm seed trade in full swing—a most interesting sight. The cleaning and dressing machinery is driven by a powerful engine. Passing to another huge building, I came into touch with the vegetable and flower seed department, where a small army of assistants were busily engaged in executing the daily orders, and one can quite understand that at this time of the year, at any rate, the name of "Webb," in common with that of other large firms, is in many gardeners' minds.

Botany in the Garden.

Having read the article "The Value of Botany in the Garden" that appeared in the Journal for March 28, 1901, p. 254, I am led to think that some elementary papers on the science, written by a young gardener who is engaged in this, to me, fascinating study, might be of interest to others. There can be, and certainly are, plenty of good gardeners who know practically nothing of the subject; but, for all that, I am certain that the gardener who is also a botanist must feel infinitely more interest in his work than one who is not. This is an age of inquiry, when people, particularly young people, like to know the why and wherefore of everything they do or see done, and botany explains the reason for many horticultural practices. As the following papers will be written by a young gardener who is also a learner, I may at times be in error, when I hope to be corrected, editorially or otherwise.

To begin with, the word botany itself is derived from the Greek, meaning "a plant." It is the science of plants, treating of their internal structure, external form, functions, life-history, distribution, uses, and classification. We will take into consideration first, then, their internal structure. Plants are made up of a number of minute cells, containing a substance called protoplasm, with a denser portion known as the nucleus, the whole contained in a cell-wall of cellulose. The chemical elements of protoplasm are carbon, oxygen, hydrogen, nitrogen, and sulphur. The simplest forms of plant-life consist of one cell only (unicellular), whilst the higher plants begin life from one fused cell of male and female elements, which repeatedly subdivides until many cells are formed. This is what we understand as growth.

A number of united cells form the plant tissues. The simple tissue is capable of being altered for different purposes, and a variety of tissues grouped together form organs, as root, stem, and leaf. If we examine the bark from the youngest twigs of an ordinary deciduous tree, such as the Apple, with a micro-

scope we shall see that it consists of layers of cells, the outer being empty and having a thicker outer wall, called the cuticle. Beneath the cuticle, or "skin," lies the epidermis; next this comes the hypodermis, also consisting of empty cells. Beneath these are several more regular layers, which are constantly being added to from below by the division of cells containing protoplasm. These latter cells constitute the cambium tissues. As the lower layers are constantly being added to, so the outer ones are thrown off as dead bark.

There is great variety in cell form—mutual pressure, absence of pressure in certain directions, or elongation of tissue—all influencing individual shape. Cells vary, too, in size, but are generally very minute. As the cell gets older its wall becomes thicker and the protoplasm becomes "vacuolated," that is, the watery fluid with which it is saturated, called cell-sap, collects in drops. As time goes on nearly the whole of the cavity becomes filled with this cell-sap, the protoplasm remaining as a thin lining, the nucleus being carried to the side with it. Besides the protoplasm, the nucleus, and the cell-sap, certain cells are found to possess other contents, as plastids or colouring matters, also starch, resin, tannin, &c. Protoplasm is, however, essential to the life of a cell, and is always present where growth is going on. It is capable of certain motions, the most important of which are rotatory and circulatory. Rotation means the revolution of the whole mass in one direction along the walls of a cell: circulation is the movement of the protoplasm to and from the nucleus, somewhat after the manner of the human blood passing to and from the heart to the extremities. In another paper I hope to discuss the growth of the cell.—W. R.

Natural Crossing Among Plants.

The "Standard" for Monday, February 3, published a deeply interesting article under the above title, and from the article we print the following, which refers to experiments carried out by Messrs. Sutton and Sons, of Reading:

"About two years ago Mr. Sutton was surprised to see in a public print statements, by an agricultural authority who had had some experience in seed growing, to the effect that all the trouble he had taken to isolate various cruciferous seed crops in the past was, probably, unnecessary, because it now appeared that they would not cross-fertilise naturally. Apparently, he based this conclusion upon the statements of some experimenters in artificial crossing, to which he was referring. Mr. Sutton knew that cruciferous plants would be particularly liable to cross, and to spoil each other, if the care thus pronounced unnecessary ceased to be taken; and, therefore, he determined to carry out a demonstration, not to satisfy himself, but to prove to doubters that plants of the Cabbage tribe would cross naturally with the utmost freedom when grown for seed side by side. Accordingly, at the beginning of 1900, he planted in a seed-bed one plant each of dwarf green Curled Kale, Brussels Sprouts, Broccoli, red variegated Kale, purple curled Kale, Thousand-head Kale, Couve Tronchuda (or Portugal Cabbage), Giant Drumhead Cabbage, Sutton's Favourite Cabbage, dwarf blood-red Cabbage, and Drumhead Savoy. The Broccoli Drumhead Cabbage, Red Cabbage, and Savoy plants were either killed by the winter or so much damaged that they did not mature any seed, although the Red Cabbage, at least, appears to have grown to the flowering stage. The seed of each of the other plants was saved separately, and carefully sown in the spring of 1901.

"From the plants thus raised two transplantings were made, each of about forty plants. In one transplanting the plants were taken without any selection; while in the other as many diverse forms as could be picked out from the appearance of the leaves were chosen. The results, now that the plants are mature, are so remarkable that they could hardly be imagined by anyone who has not seen them. It is no exaggeration to say that the crossing among these several varieties of cruciferous plants, by natural agency, has been as profuse and intricate as it could have been rendered by the most ingenious manipulation. Indeed, it is almost certain that if anyone had essayed to cross the plants artificially as curiously and diversely as they have crossed naturally, he would have spoilt his subjects, or many of them. The results of the interesting experiments are still to be seen in Messrs. Sutton's trial grounds, within a mile of Reading.

"On one side of a path a specimen of each of the types of seed-bearing parent plants is growing, and opposite to it there are four rows of plants produced from the seed of the similar plant subjected to the trial. As has been intimated, the demonstration is duplicated, one set of plots containing plants taken at random, and the other plants selected for variety in appearance when they are small seedlings. There is very little difference between the two sets of plots in degree of variation from the parent stocks, now that the plants are mature. The plants which appear to have exhibited the greatest potency in the infection of other varieties are Brussels Sprouts and red variegated, and green Kale, possibly in part because they, or the first at least, were flowering and producing pollen for a

longer time than the other plants. In the case of Brussels Sprouts, it is reasonable to suppose that the numerous flower-heads which they throw up would mature by instalments, just as the top and the stem sprouts do when they are grown for cooking. In less degree this might have been expected, also, in the case of Thousand-headed Kale; but the inoculative potency of this variety has proved in the trial smaller than that of some other kinds, though greater than that of the close-hearted Cabbage.

"Among about forty plants grown from the seed of a Dwarf Green and Curled Kale, taken at random, there is not one true to type. There are two purple Kales, several of a coarse type of Kale, not properly curled and partly of Brussels Sprouts character, and one semi-Cabbage. In the companion plot of selected plants from the same seed, there is one Kale nearly true to type, and seven are dwarf purple Kales, while one is like a Thousand-headed, the rest being coarse green Kales.

several plants of curious foliage, almost like the leaves of Parsnips in shape, and, apparently, the result of the crossing of Thousand-headed and purple Kale. Other Kales have very large leaves, while some have curiously twisted foliage, unlike that of any cultivated plant. There are five dwarf purple Kales in one plot and ten in the other, but only two are as densely curled as the seed-bearing parent stock, and nearly all are much deteriorated in colour.

"There is not a single plant of true type in the unselected plot of Thousand-headed Kale. Several are obvious crosses between that stock and Brussels Sprouts, a few of which show markings of the red variegated Kale, while others are semi-Couve Tronchudas. In the selected plot there are five plants of nearly true type, four more like Couve Tronchuda, and one a Thousand-headed Couve, others being nondescript purple or green Kales of degenerate forms. Four distinct Cabbages are to be found in the two Couve Tronchuda plots; other plants are



Cinerarias at Wordsley.

"In neither of the Brussels Sprouts plots is there a single plant with "buttons" on its stem, as there would be in one of true type. Instead, there are the most curious specimens of loose sprouts—some quite purple, some variegated red, and some with Kale leaves; while one has a top and stem sprouts, showing the peculiar light green and white-veined foliage of the Couve Tronchuda. It is not impossible that this Sprouts-Couve cross, alone among all the 'sports,' may prove worth perpetuation as a fresh culinary acquisition. The variegated sprouts present a pretty appearance, but are of no value for cooking. The red variegated Kale plants in both their plots show more signs of Cabbage inoculation than any others. In each plot there are four plants of distinct Cabbage character, half of them being red and half variegated. Other plants are bastard types of the Kale, some red variegated and some green, while five in the unselected plot are sufficiently true to type to pass. Several of the plants are of Brussels Sprouts character, with Kale leaves.

"Among the progeny of the dwarf purple Kale there are

apparently crosses between Couve and Thousand-headed Kale or Couve and Brussels Sprouts; and there are several like Drum-head Kales, but heartless, as the Couve is. In the selected plot are to be seen four plants similar to the seed-bearing parent, but not true to type, while there are none as nearly true in the other plot.

"Perhaps, of all the seven plants which produced seed the Cabbage has been least spoilt by exposure to chance crossing. There are six true to type in the two plots, with three semi-red Cabbages, but still the great majority of the plants are of mixed character. There is one distinct Cabbage-Couve cross, and another plant appears to be a combination of Cabbage and Thousand-headed Kale, besides which are to be found two Cabbage-headed Brussels Sprouts and several Kales of coarse type, probably Cabbage Kales. Perhaps the most curious plant in either of the Cabbage plots is one of combined Couve Tronchuda and Brussels Sprouts character, the sprouts on the stem being stained by the red variegated Kale."

Death of Mr. Selfe Leonard.

Those of our readers who have not observed the record of the accidental death of Mr. Selfe Leonard in the daily newspapers of February 23 and 24, will learn of his untimely end with poignant regret and surprise. So robust was our friend, so very genial, ever hearty, and possessed with perennial bonhomie of temperament and action. At Rome (where he was sojourning), on the evening of Saturday, February 22, he is reported to have gone "up to his room by the lift, and afterwards fell down the staircase, sustaining injuries to which he not long afterwards succumbed."—(The "Observer.") He was a reputed authority of hardy plants, and had the large nurseries at Guildford and Compton, which were almost entirely devoted to these plants. He was especially well known in London horticultural circles, and will be greatly missed.

Societies.

Royal Horticultural, Drill Hall, February 25th.

The procession of the weeks is now beginning to be very apparent in the greater variety and size of individual exhibits at the shows of this Society, held fortnightly in the Drill Hall. The meeting of Tuesday last was a most pleasant one. Daffodils and a collection of spring flowers were shown by Messrs. Barr and Sons, King Street, Covent Garden, while both Messrs. Ware, Limited, of Hale Farm Nurseries, Feltham, and Messrs. George Jackman and Son, Woking, staged other tasty collections of seasonable Alpine and border plants. Messrs. William Paul and Son, Waltham Cross, Herts, were forward with large pot specimen Camellias, filling the central space of the hall, and Messrs. R. and G. Cuthbert from the Southgate Nurseries, Middlessex, exhibited an immense group of forced spring flowering shrubs, as *Staphylea colchica*, *Azalea mollis* varieties, *Cydonia japonica* alba, *Cytisus purpureus incarnata*, *Genista præcox* alba, Lilacs, Deutzias, and *Wistaria sinensis*. The group was most ardently admired by both lady and gentlemen visitors. Messrs. J. Veitch and Sons, Limited, Chelsea, formed a rich show with *Prunus Amygdalus persica magnifica* in 7in and 9in pots, and profusely flowered. They had also a grouplet of the rich yellow *Cupressus Lawsoniana Stewarti*, than which we know nothing more effect in its shade of colour. Veitch's *Cineraria Feltham Beauty*, with star-shaped flowers of a violet-lavender colour, is a subject that should be in every greenhouse. The members of the committee present were:—

Floral Committee.

Present: Charles E. Shea, Esq. (in the chair); with Messrs. Charles T. Druery, H. B. May, George Nicholson, James Walker, R. Dean, J. F. McLeod, John Jennings, James Hudson, William Howe, C. R. Fielder, Charles Dixon, J. Fraser, Charles Jefferies, J. H. Nix, George Gordon, Robert W. Wallace, E. H. Jenkins, R. C. Notcutt, Edward Mawley, C. Blick, and George Paul.

Messrs. J. Peed and Son, Norwood Road, S.E., staged varieties of *Primula obconica*, some of which were deep rosy-pink and charming. From the Highgate Nurseries of Messrs. Cutbush and Son Ericas, Epacris, and Boronias were sent. The élite of the Epacrises were The Premier, rosy crimson; densiflora, white; ardentissima, rosy-red; and ramosa, salmon-pink. Mr. G. Mount sent his lovely and splendid H.P. Roses from Canterbury, while Messrs. Hugh Low and Co., Bush Hill Park, Enfield, staged a plentiful exhibit of *Azalea indica*, *Cytisus*, Epacris, Lilacs, and Cyclamens. From Swanley (Cannell's) the group of Primulas representing the Chinese form at its very best, and the reverted strain now named the "stellata," also showed fine development. The effectiveness of *Echeveria retusa* when grown and thoroughly well flowered was capitally demonstrated by Messrs. Cannell on this occasion. Mr. John May, nurseryman, Summit, New Jersey, U.S.A., staged a vase of a new Rose named Mrs. Oliver Ames, which had been cut fourteen days. The flowers are very strong, full, large, and deep rose-pink, the base creamy. Vote of thanks.

Fruit and Vegetable Committee.

Present: A. H. Pearson, Esq. (in the chair); with Messrs. James H. Veitch, W. Poupert, Geo. Wythes, J. Willard, J. Jaques, James Smith, C. G. Nix, Edwin Beckett, W. Pope, M. Gleeson, Geo. Kelf, H. J. Wright, Alex. Dean, S. Mortimer, Henry Ealing, Jos. Cheal.

This committee had a few individual dishes of Apples before it, also Seakale and splendid Asparagus from Messrs. Fromow, the market gardeners, and some handsome Onions of the variety Cranston's Excelsior sent up by Mr. N. Kneller, of Malshanger Park Gardens, Basingstoke. These received a cultural commendation.

Messrs. Wm. Wood and Son, Limited, Wood Green, London, N., staged a number of their new inventions and improved appliances for the garden. The "Perfecta" syringe, that sprays either direct forward or at any angle within an arc of 90deg from axis, was on view. They also showed the Eric knapsack, and Muratori spray pump, together with sample of the "Veltha" emulsion were staged.

Orchid Committee.

Present: Norman C. Cookson, Esq. (in the chair); with Messrs. James O'Brien, de B. Crawshaw, R. Brooman White, J. Charlesworth, Jas. Douglas, A. Hislop, H. T. Pitt, H. J. Chapman, John Cypher, W. Boxall, N. Bilney, F. A. Rehder, H. A. Tracy, W. H. White, and E. Hill.

Orchids were far more numerous than they have been for many months past. From Cheltenham the Messrs. Cypher contributed a fairly flowered group of Dendrobiums. These included D. Cybele, Ainsworthi roseum, nobile pendulum, rubens magnificentum, and Aurora.

Jeremiah Colman, Esq., from Gatton Park, Reigate, had also a fine lot of Dendrobies, including large and massively flowered specimens of D. crassinode and a smaller D. e. album, D. nobile Cooksoniæ, D. aureum, and D. splendidissimum grandiflorum. Captain Holford, Westonbirt, Tetbury, had a very valuable selection of choice Cypripediums, while Sir Trevor Lawrence, Bart., with beautiful plants of Dendrobium Berkeleyanum, O. xanthocentrum pallens, and Cypripedium Argo, Morganianæ, was also of assistance in composing a fine display. Messrs. Hugh Low and Co. received a number of certificates, as did Charlesworth and Co. and Sander and Co.

Medals.

FLORAL COMMITTEE.—Silver-gilt Floras to Messrs. Wm. Paul and Son and R. and G. Cuthbert. Silver Floras to Cannell and Sons and to H. Low and Co. Silver Banksians to G. Mount; J. Veitch and Sons, Limited; Cutbush and Sons; G. Jackman and Son; Barr and Sons; and Messrs. T. S. Ware, Limited. Messrs. J. Peed and Son obtained a Bronze Banksian.

ORCHID COMMITTEE.—Silver-gilt Flora to Sander and Co. Silver Floras to J. Colman, Esq., and Jas. Cypher. Silver Banksians to Sir Trevor Lawrence, Bart., and Captain Holford.

Certificates and Awards of Merit.

Acacia harpophylla (syn. *cultriformis* [?]) (Mrs. Denison).—A very pretty Acacia. Flowers yellow, in crowded heads, disposed in axillary and terminal racemes. Phyllodia broad at the base and tapering sharply to the apex, and bending to one side. First-Class Certificate. Mrs. Denison (gardener, Mr. A. G. Gentle), Little Gaddesden, Berkhamstead.

Cypripedium × *A. Dimmock* (Sander & Co.).—Rich in colour, heavy in appearance, and very distinct. The pouch is brownish; the curving petals are purplish near the tip on the upper surface, and black spotted toward the base. The dorsal sepal is white at the apex, green at the base, with a black beam in the centre. Award of Merit.

Cypripedium Dowlingeanum (W. M. Appleton, Esq.).—One of the Godfroyæa leucochilum × insigne peltatum crosses. It is a large full flower, with much substance, deeply spotted with purplish erimom. The tendency is mostly to the Godfroyæa leucochilum. Award of Merit. W. M. Appleton, Esq., Weston-super-Mare.

Cypripedium Felicity (H. T. Pitt, Esq.).—A large bold flower, with handsome dorsal sepal, green at the base and shaded upward with mauve-pink. The edge is pure white. The sinuous, narrow petals greenish with brownish pouch. Award of Merit.

Lælio-Cattleya Chôletiana (Sander & Co., and Hugh Low & Co.).—Flowers of graceful form, petals and sepals wavy. The lip is long, fluted, and bent down in front; the edges are much crinkled, and bright purple rose. The petals and sepals are more lightly coloured than the lip. Award of Merit.

Odontoglossum crispum, *Mabel Whateley* (H. Whateley).—Small flowers, but of great substance. Bearing thick marks of crimson brown on sepals, petals, and lip. Award of Merit.

Odontoglossum loochriestense, var. *enfieldiensis* (Hugh Low & Co.).—An exceedingly rich coloured variety, the edges deep golden yellow, but palest cream in the centre. One large chestnut blotch marks each segment. Award of Merit.

Phaio-Calanthe Ruby (Norman C. Cookson, Esq.).—Has large flowers with prominent lip, velvety dark crimson in colour. Award of Merit. Norman C. Cookson, Esq., Wylam-on-Tyne.

Nottingham Chrysanthemum.

The annual meeting of the Nottingham and Notts Chrysanthemum Society was held at the Exchange, Nottingham, on February 12. In their annual report, the committee stated that after a careful deliberation they had decided that the time had come when the summer flowering exhibition should be held in a larger and more convenient hall, and they had been amply repaid in engaging the Mechanics' Hall for the purpose. The president, the Mayor of Nottingham, opened the exhibition, and the thanks of the society were due to him for the kind interest he had taken in the society during his year of office. The exhibition of late varieties was kindly opened by Lady Henry Ben-

tinck, and considering the number of counter-attractions in the city on the date of the show, the committee had every reason to be pleased with the result. The committee were under great obligation to a large number of gentlemen who gave special prizes. The statement of accounts showed a balance in hand of £26 0s. 1d., and the secretary mentioned that of the amount outstanding £20 was good, which would considerably augment their fund. The report and balance-sheet were unanimously adopted. Mr. J. Bell was re-elected treasurer and Mr. E. Hummel secretary, and the following were appointed to act upon the committee:—Messrs. G. Bartle, T. Bartle, A. Clarke, F. Dobney, T. Hugh, F. Hunter, F. Husbands, G. Jones, P. Karmel, A. Lacy, C. J. Mee, J. W. Newton, A. Staton, R. J. Walters, and G. Wright.

Shropshire Horticultural.

The annual meeting of the Shropshire Horticultural Society was held in the front room of the Shrewsbury Music Hall, on Wednesday, February 12, Mr. Richard Taylor presiding. Mr. W. W. Naunton (one of the joint hon. secretaries) read the annual report as follows:—The members of the society will not have forgotten the charming weather with which they were favoured on both days of the show in August last, which resulted in a larger attendance than at any previous exhibition since the establishment of the society in the year 1875, as evidenced by the fact that the total income received from all sources amounted to £4,746 16s. 1d., against the previous largest income in 1899 of £4,739 10s. 11d. These figures prove that the general public appreciate the committee's exertions to cater for their enjoyment. With regard to the quality of exhibits staged in the different tents in August last the generally expressed opinion of the thousands who enjoyed the splendid collections of plants, flowers, fruit, &c., was that their beauty and quality excelled any previous exhibition. It is gratifying to the committee to know that such opinions were fully endorsed by the numerous judges engaged on the occasion. The groups and fruit classes generally represented all-round displays never before witnessed in Shrewsbury, and were viewed as "object lessons" to gardeners and others interested in horticultural pursuits. In addition to the attractions above mentioned, special reference is due to the splendid music provided by the military bands, and the excellence of their performance, which attracted crowds of appreciative listeners. The different railway companies justly merit the society's special recognition and thanks for the admirable arrangements to ensure the public safety, so successfully carried out by them under the trying and difficult circumstances with which they had to contend, pending the important alterations taking place at and near to the Shrewsbury Station. Mr. James Vine (one of the hon. treasurers) read the statement of accounts for the past year. The total income was £4,746 16s. 1d., including £930 19s. taken at the gate on the first day of the show, and £1,690 7s. 6d. on the second. The refreshment contract was £566, and cheap tickets sold previous to the show realised £651 1s.; whilst the profit on the sale of programmes came to £80 2s. The subscriptions amounted to £434 19s., and £96 18s. 6d. was received for special prizes. The spring show cost £109 15s. 6d., and the cash taken was £13 17s. 6d. The expenditure in connection with the summer show amounted to £4,075 4s. 10d., which included the following items:—Prize money, medals, &c., £1,061, 15s.; sports, fireworks, &c., £543 14s.; bands, £402 2s.; hire of tents, staging, &c., £431 5s. 5d.; printing, £175 6s. 7d.; advertising, £196 19s. 4d.; and donations, £71. The latter item included £5 to the local branch of the St. John Ambulance Association, £25 to the Shropshire and West Midland Agricultural Society, £20 to the Beekeepers' Association, and £20 to the band that played in the Quarry during the summer months. The profit on the summer show amounted to £997 15s. 1d., or deducting rents and interest on investments there was a net profit of £827 10s. 3d. The society was worth £3,167 13s. 5d., which was invested as follows: Balance in banker's hands, on deposit account, £400, on current account £267 13s. 5d.; invested in Corporation bonds, £2,500. The chairman, in proposing the adoption of the report, said they must all feel satisfied that the society was in a very prosperous condition. Mr. W. Phillips seconded the proposition, which was passed unanimously. Mr. J. D. Southam proposed that Mr. H. J. Allcroft be elected president for the ensuing year. The resolution was carried unanimously. In proposing a vote of thanks to Lord Barnard, the retiring president, for his services during the past year and his liberal gift of prizes, Mr. T. P. Deakin said he thought they were particularly fortunate in securing year after year the services of very distinguished Shropshire men to occupy the position of president. Mr. George Mitchell seconded the vote, which was heartily accorded. Mr. W. Adams proposed a vote of thanks to the Mayor. It was resolved that the following be re-elected members of the committee:—The Rev. J. R. Legh, Messrs. J. Birch, H. C. Clarke, A. Boulton, T. P. Deakin, H. J. Hearn, E. R. Hollier, H. H. Hughes, R. S. Hughes, H. Owen, O. Pritchard, G. M. Salt, and F. W. Wateridge. Messrs. E. F. Murrell and C. Roberts were elected in the places of Messrs. E. Murrell and W. Newman, and

further votes of thanks were accorded to the managing committee and their chairman, to the treasurers, and the hon. secretaries (Messrs. H. W. Adnitt and W. W. Naunton) for the admirable manner in which they had carried out their duties. He said that of course the great bulk of the work of the show fell upon the secretaries, who performed their duties in a very satisfactory way. He wished also to particularly mention the way in which the accounts had been prepared by the treasurers. The officials of the railway companies at Shrewsbury, and the Shrewsbury Ambulance Association also received the heartiest thanks of the meeting.

Ipswich Mutual Improvement.

On the 20th inst. a large attendance of members gathered at the Co-operative Hall, Carr Street, under the presidency of Mr. R. C. Notcutt, to hear a paper by Mr. W. Messenger, of Woolverstone Park Gardens, entitled, "Some Seasonable Notes on Hardy Fruit." The essayist dealt with his subject in a chatty and humorous style, touching lightly upon most of the items requiring attention in the fruit department at the present time. Any arrears of pruning, he said, should be finished off without delay, and particular attention should be paid to thinning the branches. He likewise advocated the judicious thinning of fruit spurs, demonstrating his methods by means of specimens. Various remedies for the extermination of American blight, scale, and moss on trees were mentioned, together with methods of renovating old trees by re-grafting. The necessity of having protecting material handy for Peaches on walls was urged, and many other timely hints were embodied in this very instructive paper. A lively discussion was opened by the chairman, and continued by Messrs. Chandler, Morgan, A. Creek, Cotton, and others, one speaker in particular causing amusement by testifying to the efficacy of Paris green for destroying insect pests by saying it had killed all his bees, a warning which he hoped would not be lost sight of by other gardeners who were bee-keepers. A hearty vote of thanks was accorded the essayist.—E. C.

Shirley Gardeners' Association.

The usual monthly meeting was held at the Parish Room on Monday evening, February 17, when a good attendance of members were present. Mr. B. Ladhams, F.R.H.S., presided, and introduced the lecturer, Mr. Cleveley, who gave a very interesting lecture on "Landscape Gardening." What is a landscape garden? asked the lecturer at the commencement, and answering the same, said a landscape gardener must be a maker of rural scenery, and pointed out how great a factor were trees in adding to the beauty of scenery, and therefore how necessary it was for a landscape gardener to have a thorough knowledge of the character of shrubs and trees. Mr. Cleveley said how much better it would be, instead of spending enormous sums of money on statuary, to lay out parks and pleasure grounds, or to plant their streets with trees, as that should by-and-by form beautiful avenue, which would be a source of delight to the whole of the community, whilst a tablet in a suitable place would indicate to strangers the object of the planting. Straight versus winding avenues was a question about which much had been written. For a long distance a straight avenue was best—giving as an example the fine one at Southampton, which is over two miles long; while for a shorter distance he thought a curve was best. He (the lecturer) next touched upon the laying out of lawns, flower beds, and walks. A very lively discussion followed, in which the chairman, with Mr. B. Ladhams, Messrs. E. Ladhams, J. Jones, Wilcox, J. Miles, G. Verdon, and others took part. The secretary read a letter from J. Key Allen, Esq., F.R.H.S., resigning his membership of the association as he is leaving Southampton for Bournemouth. Mr. Greenslade, the hon. treasurer, announced that the Technical Committee of the Town Council had voted the association the sum of £29 9s. On March 10 is the annual general one for passing accounts and electing officers. On March 17 the annual concert will be held.—J. M.

Liverpool Horticultural Association.

A meeting of the above association was held on the 15th inst. at 7, Victoria Street, Mr. Thomas Foster presiding over a fair attendance of members. Mr. Sherry, of the Botanic Gardens, Liverpool, gave a most interesting and instructive paper on "The Elements of Cultural Success." This gentleman dealt with his subject in a most thorough manner, comparing, somewhat, the cultivation of plants to human nature; also emphasising the necessity of proper attention at the right time to the smallest details (which are sometimes neglected), and on which the successful termination of a plant's growth depends. To cultivate, Mr. Sherry remarked, was to improve the present state of things in some way or other, and thus plants that were weak would be improved and strengthened, quoting the old proverb that "what is worth doing at all is worth doing well." He contrasted the dull with the bright side of a plant's life, comparing the weakly, drawn specimen to the street arab, the result of neglect and inattention when in a young state having in a great measure to

do with the plant in its late stages, and contended that when a plant was potted imperfectly, it was not so much for want of knowledge and skill, but usually through carelessness. He then dealt briefly with the general routine of plant growing, commencing with the proper selection of suitable material to use for potting, also the necessity of providing suitable drainage, and the judicious use of the watering pot. He strongly urged upon all young men to acquire an elementary knowledge of the many and varied scientific aspects relating to horticulture, more especially to gain a knowledge of the chemistry of the soil, and the general structure of plants, so as to know the why and the wherefore of all work that came under notice regarding plant life, and thus have a thorough foundation to work upon. A discussion followed, in which several members took part, especially on the theoretical part of the paper. A hearty vote of thanks was accorded to Mr. Sherry for his excellent lecture; also to the chairman for presiding.—J. S.

Figs under Glass.

EARLIEST FORCED TREES IN POTS.

To assist the trees in swelling the first crop fruit, apply a top-dressing of rich material to the surface of the pots, space being provided for this purpose by a layer of turf placed around the rims, thus forming a dish. The dressings should not be heavy, but a little of the rich compost supplied at weekly intervals. Liquid manure will also be needed to sustain the health and vigour of the trees, it being better to supply a varied rather than a uniform regimen. Thus watering with liquid manure from stable or cowhouse tanks, or Peruvian guano, 1oz to a gallon of water, will act more potentially if a sprinkling of some approved fertiliser be given about every ten days or a fortnight. The following mixture will be found useful:—Three parts bone superphosphate, two parts sulphate of potash, and one part sulphate of magnesia, mixed and sprinkled on the surface. Let the water or liquid manure be of the same temperature as that in which the pots are placed. Driblets are of no use, and insufficient supplies of liquid nourishment often cause the fruit to fall.

It is very important to maintain a genial condition of the atmosphere, effecting it by syringing twice a day when the weather is bright, but avoid keeping the foliage constantly wet. In dull weather damp the walls, paths, and beds instead of syringing the trees, but an occasional syringing will be necessary to keep down red spider. If this pest appears paint the water pipes thinly with sulphur, using skim milk for mixing. Commence ventilating a little at 70deg, increasing it with advancing sun heat up to 85deg, which ought not to be exceeded before noon, a rise to 90deg or 95deg then, or after closing, being beneficial. The night temperature may range from 60deg to 65deg; 55deg in the morning in severe weather is safer than the higher temperature, advancing to 65deg by day. Avoid crowding the trees, but instead of very close pinching it is desirable to tie shoots out or down as the growth advances, and confine the stopping to nipping off the points of the unruly growths at the fifth leaf, rubbing off those not required.

PLANTED-OUT TREES.

Where these were started early in the year they will now require disbudding and stopping. The former should be performed whilst the growths are quite small, not retaining more growths than there is room for, and stopping the growths at about the fifth or sixth good leaf. This secures good swelling in the first-crop fruits, and also favours the formation of the second crop Figs; these being best produced at the base of the current growths and the second breaks, will be sturdy and short-jointed, important for securing first crop Figs another season, the points of the growths being well exposed to the light. Water the border freely when necessary at the temperature of the house, or supply liquid manure, not too strong, and mulch the border with rich compost. This will attract the roots to the surface, where they can be fed by sprinkling with a mixture of dissolved bones, three parts, powdered saltpetre two parts, and soot, one part, mixed, applying at the rate of 2oz or 4oz per square yard. Where the trees are confined to narrow and shallow borders encourage the emission of roots from the collar or stem by placing pieces of fibrous turf and partially decayed manure in contact with it, and by extending the material outwards a number of feeders will be secured. If these are supplied with water or liquid manure, or top-dressings of chemical manures, they will extend and multiply and greatly assist the first and second crop of fruit. Keep the night temperature at 55deg to 60deg. When it reaches 65deg by artificial means in the day admit a little air, increasing the ventilation with the temperature and reducing it in like manner, closing at 70deg, syringing twice a day, and otherwise maintaining a genial atmosphere.—GROWER.

Palermo.

I forget whether I told you of the wealth of Roses which more than anything, perhaps, characterises Palermo. There are two public gardens which were one mass of colour. The hedges round the walks were entirely Rose bushes, all in full blossom. Overhead hung the Judas Tree all flower, and higher still the quaint-looking Coral Tree stretched out its crippled arms tipped with scarlet blossoms, bearing some resemblance to sprays of coral. The Caper plant, with its delicate lake-coloured flower, clambered up the steps of the entrance, forcing out the large blocks of granite with its powerful grasp. The Lemon Grass woos you into quiet corners by its grateful perfume, and water bubbles up in different parts to add a new delight. Out of this paradise you look one way to the sea, another to the everlasting hills, one of which, Monte Cuccio, a conical mountain, is considered to contain within it the death-warrant of Palermo, its shape showing its volcanic origin, and threatening some day to break out and bury the city in its sleep.

On another side is a new garden, lying under the famous Monte Pellegrino, where the young Santa Rosalia went away to spend her hermit life. A new road to the garden from the gate is perhaps the most beautiful part. It is lined with young Sycamores, springing out of beds of crimson Verbena, and twining round the stems are sprightly Rose trees, which mingle their garlands of flowers with the transparent leaves, and ride securely in their blushing beauty in the arms of these graceful striplings. The tendrils hang down and dance upon the wind in every alluring attitude, yet not one is snatched away, though this is a public road, the haunt of all the world in the cool evening; and famishing beggars are groaning for a baiocco under them. Fancy a road thus decorated running for a mile from Hyde Park Corner—how long would it last? The Giardino Inglese—for thus it is called, in compliment to its capricious, wild, wandering, wilful ways—is formed out of a used-up quarry, and all the irregularities of the ground have been kept to make the walls as romantic and quaint as possible. Some of the hollows form little sun traps, and are filled with tropical plants. Others have been made into lakes, and now bear the Lily and Arum floating on their surface.—VINCENT S. LEAN, Naples.

Verbenas from Seeds.

Time was when there were but few gardens which did not possess a stock of these brilliant summer flowers, but fashion, which changes so many things, removed them from their once high station. The flower garden of to-day differs materially from that of, say, thirty years ago, because, not of changing tastes, but the infinitely greater variety available for its embellishment. Then sub-tropical gardening was not so familiar; tuberous Begonias unknown for bedding, Ivy-leaved Pelargoniums and Cannas much more rare than now. There are many other tender plants now used that were absolute strangers to the flower gardener at that period. Verbenas, however, then shared a place of honour in a few selected colours. That they have not lost touch with some specialists is proved by the fact that even at the present day quite a beautiful assortment of varieties, differing greatly in colour, are to be had from seeds, and the flowers are of a size that comparison in this respect may bear with that of their "good old times." In the flower garden there is a great need for variation in the planting and kind of material employed; to adhere closely to one method is to court monotony, and monotony certainly cannot please in these days of increased enlightenment and of changing fashions. Obtained from seeds, one gets a goodly assortment of colours, and which, when bedded, look very well, especially when surrounded with a wealth of other flowers in brighter hues. In the mixture there is a quietness of tone differing materially from the employment of one variety alone, especially of the reds and pinks. Verbenas are fine objects when the weather continues bright and dry, but rainstorms quickly rob them of their splendour. The fragile nature of the individual flower pip is such that they cannot endure heavy rain; but while this is true, there is soon a fresh supply on the advent of bright sunshine and a drier atmosphere.

Those who may wish to restore a feature in the flower garden once revered, will find the present an opportune moment to get the necessary seeds and sow them at once. Given the same care and after treatment usually bestowed on Lobelias, Ageratums, Golden Feather, and such like plants, there is no reason why a new feature cannot be imparted without any great effort in cost or labour. It is often the occasion of a call on a friendly gardener one comes across instances of, it may be, long-forgotten favourites being used with telling effect that leads others with ambitious minds into prompt resolutions for the acquirement of future ideals. Many useful impressions may be "laid-up" by any gardener, who, on pleasure bent, calls on a friend of the

craft near or distant, and looks into the flower garden during the months of August or September. These months are named because until then the perfection of the picture is not complete. Nor do the elaborate and intricate designs of the carpet bed send one away with note-book and mind so well stocked as simple arrangements of old-fashioned, homely, or familiar flowers. Just such a journey brought me suddenly on some mixed beds of *Verbenas* last autumn, and though the note-book shows no entry, the impress on the mind has not "rubbed off" with the many passing events that have happened since.

The instance in question, too, was in itself a revival of the past and an outcome of a request from an appreciative owner. The probability is that many visitors to this same garden will be found to have added to their seed list a packet or two of *Verbenas*, being careful that the source of supply is one above sus-

now than then, and these are constantly being increased or altered. It is not possible to discuss principles in the present note, but it may be taken as a leading rule that all the main walks should be amply broad enough for three people to walk easily abreast, and front walks, such as the one shown, should be 8ft in breadth. Breadth is regulated also by the height of the house; but solidity and dignity is imparted in many cases to houses of no great height by broad, straight walks. Ornamental basins or vases relieve the frequent baldness of front walks, and lines of finished masonry may run between these basins or vases to the ground-line of the house, being only apparent with the surface of the ensnathing grass. Where no terrace is necessary or desired, and where, also, the continuity of the lawn right up to the walls of the dwelling is demanded, the broad fore-walk, with its accompanying features, can be successfully adopted.



A Formal Front.

picion. Being easily propagated by cuttings in the spring, it is possible to double or treble the number of actual seedlings by bedding time, which will be helpful in making the plantation stronger and the effect more highly appreciated. Though useful for mixed borders, particularly when raised from seeds, the value of the *Verbena* is found when massed in beds alone. Ribbon lines of *Verbenas* to colour are effective alone, or associated with other plants of summer.—W. S.

Garden Design: a Formal Front.

The formal front to which we refer will be seen illustrated on this page. Success in effective garden design depends on the proper application of certain principles in the formation of those features which jointly compose the garden. Now, even with walks, one has to conform to laws that regulate such points as breadth proportionate with length or breadth as influenced by position. The characteristics of a walk are also modified very materially by the presence or absence of various features. Your woodland path may properly be narrow and circuitous; so may the paths in the greater area of pleasure grounds; but where a path is designed in juxtaposition with the front of the mansion it ought, almost without exception, to be severely formal—straight, and supported by such architectonic bearings as our illustration shows. This, and cognate subjects bearing on garden design, received considerably greater attention one hundred years ago than they do to-day; yet there are a vaster number of gardens

A Nursery School of Botany.

An innovation that is not only unique and quite original, but useful as well, has recently been made by Thomas Meehan and Sons, the nurserymen and landscape engineers, of Germantown, Philadelphia, U.S.A. This concern has established for its employes a School of Botany with a systematic course of study, and it has already met with great encouragement. This school is under the direct personal care of Mr. S. Mendelson Meehan, a member of the firm, and Mr. Ernest Hemming, a Kew graduate, who is a specialist in herbaceous plants and in charge of that department for the firm. The former teaches the advanced members of the class and the latter instructs the younger element. Both express themselves as being well pleased with the progress of their pupils. Every employe is eligible, and it is surprising and encouraging to see what interest all the members of the class take and what progress they make. Nothing could better show the advancement of the nursery business in this country; it is working ever upward. The value of the trained man is becoming every day more appreciated. This departure indicates a desire on the part of the employer to educate the employe, raising the man's standard, and thus making him worth more in every way. For the nursery worker the benefits to be gained by studying botany can be readily seen. The advantage such a class has to make the most of its studies on a large and complete nursery may be well appreciated. The meetings are held in the evenings, and the course has been so arranged as to make it interesting, and to eliminate as far as possible the natural dryness of the study.—("American Florist.")

Young Gardeners' Domain.

HINTS FOR YOUNG HEADS.

(Continued from page 570, last vol.).

All hints which have been advanced concerning tropical plant houses are tentatively applicable to the intermediate and cool houses as well as to the Orchid department. A brief summary of the many points essential to the attainment of perfection is simply high culture with judicious and attractive arrangement. If our young practitioner once feels the fascination attendant on this phase, and, indeed, all phases of gardening, but ultra prominent, perhaps, in plant growing, he will be served through life by a good geni, and invested with talismanic power able to lift him above the commonplace and into the higher life of gardening. He will never rest content in doing very well when conscious he can do better, nor be wholly satisfied until the best is attained. "How some fellows get on, and how others don't," is to many a mystery, but therein is the mystery and the secret of success. Let it, too, never be forgotten that singleness of purpose will accomplish more than a plurality of talent. There is in these latter days an evil spirit of discontent running rampant through gardens of all degrees; always suggesting to the ready ear shorter hours, increased pay, less work, and more play. These are very good things in their way, but the danger lies in young men attaching more importance to them than they deserve, and less to that grand gift of inherent power all possess to reach the top. It is related that when George the Third was King His Majesty engaged in conversation with a well-clad, and apparently well-fed, farmer's boy, and that the King in response to the youth's complaint that beyond board, lodging, and raiment he received no pay, said, "Don't grumble, my boy, don't grumble, that's all I get." Once again, and once for all, no disparagement is intended of the ways and means of living. The remuneration of garden boys, young or old, is, in the aggregate, not within their province to alter; these things are governed by the inexorable laws of supply and demand.

Gardening under glass may be divided into two great sections the one comprising plant culture which we now leave, the other fruit-growing to which we turn in order to observe a few of the more prominent points and interlard a few hints for young heads. It is not contemplated, or, indeed, is it scarcely possible, to introduce any novel or striking features in the sound, everyday practice of modern fruit culture, but in dealing with the subtle forces of Nature there is ample margin for freedom from orthodox restraints, as well as possible openings for the introduction of original ideas or the expansion of old ones. Grape growing holds now, as it has held in the past, and probably will hold for all time, the premier position in fruit culture under glass. There is no object of our care and skill more worthy of all the attention we can pay it, or more amenable to it than the Vine. Truly the Vine is long suffering, and slow to resent the indignities which have been thrust upon it. This, in allusion to the barbarous practice of annual peeling and the application of noxious compounds, which are, of course, supposed to annihilate the "beasties," but which, of course, don't where the same iniquity is practised year after year in some bug-infested garden.

No better opportunity is afforded to an energetic and pushing young head than that which presents itself if, on taking up his first responsible charge, the Vines are found to be in a bad way, and should they be so bad that they could not be worse, then the better it is for him, for he will probably be able to take the drastic measures of clearing them out, and starting again from the very foundation—the foundation of all good Grape growing—the borders. Unfortunately all men cannot work with a free hand. Employers are apt to regard this as a serious and expensive matter, although it be but simple, if somewhat laborious, hence a compromise crops up in which all sorts and conditions of half-hearted measures are taken from the introduction of young Vines into sour, impoverished soil, between the old ones, to the rejuvenation of ancient rods by lifting and replanting in new borders. With the latter plan, indeed, but little fault can be found, for it has often been done with good results; yet new and well made borders are surely worth young and vigorous Vines, and there is a personal bias, which cannot be kept out, in their favour. Local circumstances so considerably alter cases in Grape growing that no empirical decision respecting inside or outside borders, or both in combination, can be given; but, again, that personal bias, which probably few men can keep out of their lives, favours inside borders where roots in confinement are always under control. To ensure the latter, a thin layer of concrete will be spread over the bottom, with a gentle fall to one end for drainage, and an aperture for escape.

The modern system of spring planting in shallow borders is so satisfactory and quick in results that but few who know it as a fact would hesitate in making a clean sweep of the gnarled and knotted, maybe dirty, specimens which are often tolerated to remain to vex the soul of a young head gardener. A clean start, with clean, vigorous canes, in a clean house, is delightful to contemplate, and the man thus happily started on the short, broad

road to the easily won goal of grand Grape growing, can hardly fail to feel that enthusiasm for our subject which will carry him to it. Good, short jointed, well ripened planting canes, raised from eyes in one year, are now easily obtained from those who make the raising of them a special feature, and are preferable to the older, more expensive fruiting canes in growing away freely the first season. So much depends upon the first season. Given a well-made border, the young Vines, which will have been procured some time previous in their dormant stage, and kept so by plunging at the north side of a hedge or wall until the first sign of awakening life is in evidence, will be planted in their permanent position. Little stations of specially prepared compost, containing a free admixture of leaf mould and a handful of Clay's fertiliser will receive the carefully spread-out roots, and now for some time hence our young Vines may be treated as tender, tropical plants, starting away in a genial atmosphere, under the same treatment, including syringing with tepid water, and a light shading if necessary. As growth proceeds disbudding will take place, say, two strong shoots being left, the best eventually retained, at about 2ft from the ground, the remainder of the cane being cut away, when this has started on its journey towards the top of the house, which it is well able to reach the first season. However, more haste less speed, and a check, by topping when midway, is good practice; the short rest, before restarting from a main eye, giving them renewed energy. As the season advances every effort will be made by freer ventilation and a generous maintenance of fire heat when necessary to obtain thoroughly ripened wood by autumn. Many men, many methods, and the above is, of course, one man's method of giving young Vines a good start in life; but it has proved to be eminently satisfactory.

Everything, and the many little details need not detain, connected with the higher culture of the Vine must possess the keenest interest for the cultivator; and whether it be the season of perfectly finished bunches, even depending amidst luxuriant foliage, or the resting period, displaying nought but rich, nut-brown rods, there is for his eye the equal beauty of realisation or anticipation. "Give us more practice and less sentiment"—more of the power of the hand and less of the pride of the eye—someone says; but who shall, who can, reduce his labour of love to more mechanical force? Certain it is that the vital spark of intense love for our glorious vocation, which illumines many a lowly path in the gardening world, once properly kindled can never be quenched while reason remains. And certain it is, too, that the boundless stores of knowledge will be searched, and the perceptive faculties of the student exercised for fuller revelation than it is intended to bring within the scope of these papers.

On this subject, Vines, another hint or two only. At the winter pruning, after a good washing down of all internal wood-work, walls, and glass, a careful scrubbing of the canes with soapy water, or, what is better still, a solution of Fir-tree oil and warm water, using a comparatively soft brush—old plate brushes from the pantry are good—leaves all in that bright, happy condition dear to the heart of the Grape grower. Recently a couple of lads were observed not only removing every particle of bark from some old Vines, but engaged with all the youthful vigour worthy of a better cause in scraping the miserable looking objects to the very bone. Oh! The pity of it. For the renovation of old Vines, or as a stimulant to younger ones, when taxed by heavy fruit production, Thomson's Vine manure appears to be inimitable. On the matter of over taxation by unduly cropping, the young head will remember that, as "the merciful man is merciful to his beast," so in the good Grape grower the quality of mercy is not strained. As for thinning, stopping, tying, and the hundred details of daily practice, are they not written in those books, which are, or ought to be, on every bothy shelf, as well as weekly recorded in "our Journal?" The growing of plants in vineries may be considered an evil, but it is often a necessary one. "How can I be expected to keep my Vines clean when I am compelled to put all manner of plants under them?" said a grumbling old head. If our young heads have absorbed the hints previously given on plant culture, it is not expected they will find any difficulty in doing so. An old nobleman once remarked, "The vinery is a fine test of a gardener's abilities; there I look for his character as a gardener;" hence this subject concludes with a new appreciation of the old adage, *in vino veritas*.—AN OLD BOY.

(To be continued.)

Trade Catalogues Received.

- Richard Dean, Ranelagh Road, Ealing, W.—*Plant Specialities and Seeds*.
- John Forbes, nurserymen, Hawick, Scotland.—*Florists' Flowers and Hardy Border Plants*.
- Hogg and Robertson, seedsmen, Dublin.—*Robertson's Book of the Farm*, 1902.
- W. Watson & Sons, Clontarf Nurseries, Dublin.—*Choice Plants for the Garden*.



Fruit Forcing.

PEACHES AND NECTARINES—EARLIEST FORCED HOUSE.—The fruit has nearly completed the first swelling, and has entered on the stoning process. Where the thinning has been properly attended to there will be about one fruit left of the larger Peaches to every square foot of trellis covered by the trees. Nectarines and Peaches not of the first size may be left a little closer. There is danger, however, of the fruit falling if too many are retained; but this depends greatly on the wood being well ripened and the otherwise healthy condition of the trees. If there be more fruit than specified above remove the smaller, allowing, however, a margin for casualties in stoning. During the stoning process keep the temperature as equable as possible, as a sudden check by draughts of cold air in the day-time and too high a temperature at night may prove disastrous. The night temperature may range from 60deg to 65deg, but 5deg less in severe weather; 70deg to 75deg by day with an even heat, and about 65deg from fire heat when the atmosphere is cold and the sky overcast. Secure the shoots to the trellis as they advance, keeping those retained to attract the sap to the fruit stopped at the second or third joint. Keep red spider in check by syringing in the morning and afternoon of fine days. If thrips and brown aphides appear fumigate carefully when the foliage is dry. For destroying the pests named the advertised insecticides are suitable. Afford due supplies of water to inside borders, or if the trees are at all weak, liquid manure in a properly diluted and warmed condition.

SECOND EARLY FORCED HOUSE.—Disbud gradually, removing the ill-placed and unnecessary shoots, not reserving too many of best situated and most desirable, and tie down the growths early, so as to give them the required inclination, always allowing sufficient room for their swelling in the ligatures. Thin the fruit by degrees, first removing those on the under side of the branches, or otherwise badly placed; but leave those in the best positions for receiving light and air until they indicate by free swelling the necessity for further reduction, then remove the smaller, and so on, until only a few more than are required for the crop are left. Syringe the trees on fine mornings, and ventilate early in favourable weather. The temperature may range from 55deg to 60deg at night, 60deg to 65deg by day, ventilating at the latter temperature, and closing the house when the heat is declining, allowing an advance of 5deg to 10deg from sun heat. Supply water as required, but avoid making the soil very wet at this early stage, for it only induces soft growths.

HOUSES STARTED IN FEBRUARY.—The trees started at the beginning of the month are in flower or well advanced; and as there will in most cases be more flowers than needed, all those on the under side of the shoots may be removed by drawing the hand the reverse way of the growths, and where the blossoms are closely set they may be still further reduced, especially on the weaker shoots. A night temperature of 50deg to 55deg, and 55deg by day artificially, is suitable, falling 5deg on cold nights; ventilating from 50deg, as a close atmosphere is fatal to the blossoms, freely at 55deg, and allow an advance to 65deg from sun heat. Fertilise the flowers in the early part of fine days, either by shaking the trellis or dusting the blossoms with a camel's-hair brush charged with pollen. It is the better plan to pay attention to each individual flower when its pollen is ripe. Cease syringing when the trees are in flower, but the floor and border should be sprinkled morning and afternoon.

HOUSES TO AFFORD RIPE FRUIT IN JULY AND AUGUST.—These must be started at the beginning of March, closing the house now, and syringing the trees occasionally until the buds show colour, when it should be discontinued. The borders must be brought into a thoroughly moist state by repeated waterings, if necessary supplying liquid manure to weak trees. If the lights have been off during the winter the borders will not require watering until the fruit is set and advanced in swelling. When the buds are sufficiently prominent and there is a superabundance of promise for fruit, all those on the under side or back of the shoots may be removed, which will strengthen those that remain and conduce to a good set of fruit. Maintain a temperature of 40deg to 45deg at night, 50deg by day with a little air, advancing to 65deg with sun and full ventilation.

LATE HOUSES.—The weather lately has usefully retarded the flowering, which in houses with fixed roofs is much too forward. If the lights are off there is no hurry in replacing

them, suffice that this be done by the time the buds show colour, and by thus retarding the trees they will flower about the middle of April, when they have the benefit of the sun heat. When the trees come into bloom there must not be any attempt at retarding the fructifying process; but a gentle warmth at that time does much towards securing a good set of fruit, and it is absolutely necessary in cold localities to insure safety from spring frosts. Houses with fixed roofs should be ventilated freely, and water supplied as necessary to keep the borders in a moist state down to the drainage.

UNHEATED HOUSES OR WALL CASES.—The chief consideration in these is to retard the flowering. Anything in the way of pruning and securing to the trellis should be completed, ventilating freely to retard the flowering to as late a period as possible. See that there is no deficiency of moisture in the borders, supplying water as required to bring them into a thoroughly moist condition. Apricots in wall cases are in blossom; they cannot have too much air if only the temperature is kept at 45deg to 50deg by day and prevented falling below 35deg at night. A close atmosphere is fatal to Apricot blossom, also to those of Cherries and Plums. The cases containing these cannot be too freely ventilated, subject to the conditions given for Apricots. Pears are similarly exacting during their flowering period.—ST. ALBANS.

The Kitchen Garden.

PEAS.—Sow another good breadth of main crop Peas. Varieties of medium height and tall are suitable, sowing on well prepared ground, arranging the rows so that they are not too closely together. Give protection to all Peas when pushing through the ground.

CABBAGE.—Frequent hoeings between the plants and sprinklings of artificial manure will greatly help the growth. Soot is a good manure for Cabbage and a light dressing of nitrate of soda. Both are quick acting.

CAULIFLOWERS.—Young plants from a spring sowing are now established, and should receive cold frame treatment. Fully expose during fine weather.

POTATOES IN FRAMES.—Potatoes in frames planted at the end of January are now growing freely, and, if high enough, may have soil placed round them. Protection from frost should be afforded by covering the glass at night.

LETTUCE.—In rich, light soil sow Lettuce for a second early crop in shallow drills formed a foot asunder. The leading Cabbage varieties are Tom Thumb or Tennis Ball, which has small, firm, and succulent heads; Commodore Nutt, of small, compact habit, early dark green colour; All the Year Round is a useful sort. Of the Cos varieties, Paris Green, Bath Cos, Kingsholm, Standwell, and Marvel are reliable varieties. Ivery's Nonsuch is a large growing variety, which blanches well.

SOWING CELERY SEED.—For securing early plants to place out in trenches in May seed of a good variety ought now to be sown. Wright's Grove White is good for early crops, or Webb's Solid White. Any of the following red varieties will be found good: Leicester Red, Major Clarke's Red, Sulliam Prize, and Wright's Grove Red. Shallow but wide pans or boxes may be used for sowing the seed, filling these with light compost, and make level, fine, and firm. Water with a fine rose, and when drained sow the seed thinly. A mere covering of light fine soil will suffice. Cover with a sheet of glass, and shade with paper until the seeds germinate. Until the seedlings form rough leaves a warm position is necessary. After that a cool, light, and airy position is essential until the plants are ready to prick out in frames or boxes.

TOMATOES.—Tomatoes in the various stages of growth command daily attention, and especially so in dry, sunny weather in a warm structure, where the sunshine and artificial heat combined cause rapid evaporation. Strong plants newly placed in fruiting pots or planted out in a border will require careful attention at the roots until well established, and the main object must be not to overwater. Give abundance of light, and keep the plants strictly to one stem by rubbing out the side shoots. In potting Tomatoes into the larger pots or final fruiting pots, it is very important to make the soil firm about the roots: also limit the quantity, affording only enough for the present needs. It is most beneficial to Tomatoes to receive frequent top-dressings of rich soil at intervals after fruiting commences. Strong seedlings may be potted singly, and plants in small pots which are filling with roots must receive a shift into a larger size. From seed sown now in gentle bottom heat strong plants will result, grown on in plenty of light and warmth with abundant air.

THYME BEDS.—Where beds of common and Lemon Thyme are situated in a comparatively dry border, and the beds require renewing, this may be done now. Lift the old plants, and divide the healthy parts into pieces with roots attached to each. Plant about 6in apart in ground well dug, placing low down to the leafy parts.—LYMINGTON, HANTS.

Publications Received.

Rules and Annual Schedule of Prizes, 1902 (prizes offered exceed £400): Ancient Society of York Florists. This is one of the most complete horticultural show schedules that annually reaches us. There is a balance at the bank, too, of £197 11s. 6d. * * *Amateur Gardeners' Association* (Birmingham Branch): ninth annual report and balance-sheet. The past year has been successful for this branch. The innovation of holding a summer show on a Saturday afternoon turned out well, and the sale of flowers assisted the Prize Fund. There is a balance in hand of £2 4s. 7½d. The committee express their sense of the valuable services rendered, for the ninth year, by the hon. secretary (Mr. W. B. Griffin) and the hon. treasurer (Mr. R. F. Rees), and to acknowledge the assistance given by the local and gardening Press in making known the work which the Association has achieved. * * *Bees*; a journal devoted to up-to-date bee-keeping. No. 1, vol. i., January, 1902; price 2d.: 26, Oxford Road, Upper Norwood, London, S.E. * * *Cassell's Dictionary of Gardening*: part 9 (price 7d. net) contains coloured plate of a group of Gladioli. The part embraces from Grapes to Hydrastis, a hardy herbaceous perennial. * * *Pickling Ripe and Green Walnuts*: Bulletin No. 137, University of California—College of Agriculture. Also from the same source the following Bulletins: "Ermoso of the Vine," No. 136; "The Potato Worm in California" No. 135; "Report on Condition of Vineyards in Portions of Santa Clara Valley," No. 134; "Tolerance of Alkali by Various Cultures," No. 133; "The Phylloxera of the Vine," No. 131; "Feeding of Farm Animals," No. 132. * * *The Canadian Horticulturist*: Special features—The Windsor Cherry; Cold Storage; First lessons in fruit-growing—the stem; Pruning the Orchard; Ferns in the house, &c.

The Gamekeeper's Annual, 1902.

This useful annual is published for Spratt's Patent Limited, 24 and 25, Fenchurch Street, London, at the popular price of 1s. The publication includes ninety pages of matter containing articles on such subjects as the Breaking of Dogs, Deer Management, Dog Foods and Medicines, Fish Culture, and Enemies of Game, and interesting advice on the rearing and general management of pheasants, partridges, grouse, ducks, and other birds. The diseases of these are likewise summarily reviewed. A "History of Scottish Game Keeping" is one of the features in this annual that will appeal to the fraternity as well as to those who are not professional gamekeepers. To sportsmen the book may also be recommended.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass
1902.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
Sunday ...16	E.S.E.	deg. 29.3	deg. 26.8	deg. 35.5	deg. 14.0	Ins. —	deg. 34.0	deg. 38.1	deg. 42.2	deg. 9.9
Monday ...17	E.N.E.	23.5	23.2	40.9	18.4	—	33.6	37.9	42.0	14.5
Tuesday ...18	E.N.E.	34.0	32.2	37.0	23.6	—	33.7	37.7	41.9	24.6
Wed'sday 19	E.N.E.	34.7	32.3	37.1	33.7	—	33.7	37.5	41.8	29.5
Thursday 20	E.N.E.	34.3	33.5	37.9	33.7	—	33.9	37.5	41.8	31.5
Friday ...21	E.S.E.	36.8	35.8	48.6	33.5	—	33.9	37.5	41.6	27.2
Saturday 22	E.S.E.	38.9	38.4	50.1	31.9	0.20	34.1	37.4	41.5	25.3
MEANS ...		33.1	31.7	41.0	27.0	Total. 0.20	33.8	37.7	41.8	23.2

The weather during the week has been characterised by cold east winds, fog on three days, and rain on the evening of the 22nd inst.

Agriculture in Victoria.

The Government of Victoria, Australia, have decided to publish a monthly journal in the interests of those engaged in agricultural pursuits in that colony. The journal, the first part of which has reached us, is well got up, and is intended to be a forecast of daily practice in matters of manuring, cultivation, selection, and cropping. Part I. runs to 109 pages, and includes articles on Cream Testing, American Vines, The Orchard, Climatic Influences in Victoria on Commercial Fruits, the Vegetable Garden, Economic Entomology and Ornithology, besides many short articles on decidedly useful subjects. One coloured illustration of a Vine is furnished, and numerous half-tone blocks embellish the pages.



* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

MESSRS. RICHARDSON AND CO.'S CATALOGUE.—The catalogue of this Darlington firm costs 1s., and is not free, as mentioned on page 171.

RHUBARB, ELFORD HALL (T. Hill).—The variety you name was raised at Elford Hall and sent for trial to the gardens of the Royal Horticultural Society, at Chiswick. We are unable to definitely state whether it is in commerce, but we do not think it is.

NEWPORT PUBLIC PARK.—Owing to our having been uninformed on the point, we omitted to mention on page 171 last week that Mr. Thomas H. Mawson, architect, Windermere, and 28, Conduit Street, W., was the designer of the conservatories in the public park at Newport, Mon. (built by Richardson and Co.) and figured on page 169.

FORCED WHITE LILAC ("May").—Expose the growths gradually. To inure the tender pale shoots at once to the intensity of daylight would be detrimental. When the flower trusses are less than half expanded, the shoots can be subjected (by means of shading) gradually to the daylight in a temperature ranging from 50deg to 60deg Fah.

STRIKING VINE CUTTINGS (T. Hill).—The question you put to us was answered in our issue of Jan. 16, 1902, page 70, and from that you might have obtained all the information you desire. Strike Vine cuttings, as you would any other similar woody plant, by selecting suitable, well ripened shoots from ¼ in to ½ in thick and 6 in to 1 ft long. Cut these clean through immediately beneath a joint, and insert in deep thumb pots (or a border) filled with turfy loam and sandy compost. Plunge them then in a bottom heat of 75deg, and keep the top temperature at 65deg, and moisture-charged. Now is the time to do this: do not delay.

R.H.S. EXAMINATION (F. S.).—On reconsidering your question, to which we gave a short answer last week, we discover that there is very little more to add. If you have Thompson's "Gardener's Assistant" and Cassell's "Popular Gardening" you are fairly well supplied on the practical side. You will have noticed, no doubt, that there is, of course, a new edition of Thompson's "Gardener's Assistant," which is quite up-to-date. If your edition is not new, then we do think it would be advisable to get a fresher work, and in this connection we may name Mr. J. Weathers' "Practical Guide to Garden Plants," price one guinea, and well worth the money. W. P. Wright's "Pictorial Practical Gardening," 1s., is also very useful.

NAMES OF FRUITS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (R. I.).—Apple Fearn's Pippin (late specimen).

NAMES OF PLANTS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (F. A. W., Somerset).—Appears to be *Reineckea carnea*; please send when in flower. (J. S.).—1, *Strobilanthes Dyerianus*; 2, *Hibbertia dentata*; 3, *Gasteria verrucosa*. (N. J.).—*Primula Forbesi*, the Baby Primrose. (F.).—*Phalenopsis amabilis*.

Note to Readers.—We request those of our readers who may experience any difficulty in obtaining copies of this Journal regularly to be good enough to acquaint us with the fact.

Covent Garden Market.—February 26th.

Average Wholesale Prices.—Fruit.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, cooking, bush.	8	0	10	0	Grapes, Alicante, lb. ...	2	0	2	6
" Newtowns,					" Colman ...	2	0	3	0
case ...	10	0	0	0	" Muscat ...	0	0	5	0
Bananas ...	8	0	12	0	" Almeria ...	0	6	0	8
Cranberries, 30 to 36 qt.					Oranges, per case ...	10	0	25	0
consignment ...	9	0	10	0	Pears, French, crate ...	12	0	0	0
Dates, red V., doz. bxs.	5	6	0	0	Pines, St. Michael's,				
Lemons, Messina, case	12	0	16	0	each ...	2	6	3	6

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	2 0	to 3 0	Mushrooms, forced, lb.	0 6	to 0 8
„ Jerusalem, sieve	1 6	0 0	Mustard & Cress, doz.	1 6	0 0
Batavia, doz.	2 0	0 0	Parsley, doz. bnchs.	2 0	3 0
Beans, French, per lb.	2 0	0 0	Potatoes, new French,		
Beet, red, doz.	0 6	0 0	per lb.	0 3½	0 4
Brussels Sprouts, ½ sieve	2 0	3 0	Potatoes, English, cwt.	4 0	5 0
Cabbages, tally	1 6	3 0	Radishes, doz.	1 6	0 0
Carrots, doz. bnch.	2 0	2 6	„ long, doz.	0 9	0 10
Cauliflowers, doz.	2 0	3 0	Seakale	1 0	1 3
Corn Salad, strike	1 0	1 3	Shallots, lb.	0 2	0 3
Cucumbers doz.	10 0	15 0	Spinach, bush.	2 0	3 0
Endive, doz.	1 0	1 3	Sprue, French, doz. bn.	8 0	9 0
Herbs, bunch	0 2	0 0	Tomatoes, Teneriffe		
Horseradish, bunch	1 6	0 0	consignment	4 0	0 0
Leeks, bunch	0 1½	2 0	Turnips, doz. bnch.	2 0	3 0
Lettuce, Cabbage, doz.	1 3	2 0	Watercress, doz.	0 6	0 0

Average Wholesale Prices.—Plants in Pots.

Most of the undermentioned plants are sold in 48 and 32-sized pots.

	s. d.	s. d.		s. d.	s. d.
Aralias, doz.	5 0	to 12 0	Ficus elastica, doz.	9 0	to 12 0
Araucaria, doz.	12 0	30 0	Foliage plants, var, each	1 0	5 0
Aspidistra, doz.	18 0	36 0	Grevilleas, 48's, doz.	4 0	5 0
Azaleas, white and			Lycopodiums, doz.	3 0	0 0
coloured, doz.	30 0	36 0	Marguerite Daisy, doz.	8 0	10 0
Crotons, doz.	18 0	30 0	Myrtles, doz.	6 0	9 0
Cyclamen, doz.	9 0	10 0	Palms, in var., doz.	15 0	30 6
Cyperus alternifolius			„ sjceimens	21 0	63 0
per doz.	4 0	5 0	Pandanus Veitchi, 48's,		
Dracæna, var., doz.	12 0	30 0	doz.	24 0	30 0
Dracæna, viridis, doz.	9 0	18 0	Primulas	3 0	4 0
Erica hyemalis	9 0	10 0	Shrubs, in pots	4 0	6 0
„ „ alba	10 0	12 0	Solanums	8 0	10 0
Ferns, var, doz.	4 0	18 0	Spiræa japonica, 48's,		
Ferns, small, 100...	10 0	16 0	doz.	10 0	12 0

Average Wholesale Prices.—Cut Flowers

	s. d.	s. d.		s. d.	s. d.
Acacia "mimosa," pad	6 0	to 8 0	Lilium l. rubrum	2 0	to 2 6
Anemone, double pink,			„ longiflorum	3 0	4 0
per doz.	1 6	0 0	Maidenhair Fern, doz.		
Arums, doz.	4 0	6 0	bnchs.	0 0	8 0
Asparagus, Fern, bnch.	1 0	2 0	Marguerites, white,		
Azalea mollis, per bun.	1 0	0 0	doz. bnchs.	4 0	0 0
Bouvardia, white,			„ yellow, doz. bnchs.	2 0	0 0
doz. bunches... ..	0 0	8 0	Myrtle, English, per		
Bouvardia, coloured,			bun.	0 6	0
doz. bunches... ..	0 0	8 0	Narcissus, paper white,		
Camellias, white... ..	2 0	2 6	doz. bunches... ..	0 0	2 6
Carnations, 12 blooms	1 3	1 9	„ Soleil d'Or	0 0	1 6
Cattleyas, doz.	0 0	12 0	„ double Roman	1 6	2 0
Croton foliage, bun.	0 9	1 0	Odontoglossums	4 0	0 0
Cycas leaves, each	0 9	1 6	Orange blossom, bun.	2 0	3 0
Cypripediums, doz.	2 0	0 0	Primula, double white,		
Daffodils, single, doz...	5 0	8 0	doz. bunches... ..	6 0	8 0
„ double „	4 0	6 0	Roses, Niphetos, white,		
Eucharis, doz.	0 0	3 0	doz.	2 0	3 0
Freesias, doz. bunches	2 0	3 0	„ pink, doz.	4 0	6 0
Gardenias, doz.	6 0	0 0	„ yellow, doz. (Perles)	2 0	3 0
Geranium, scarlet, doz.			Smilax, buch	3 0	4 0
bnchs.	4 0	6 0	Tuberose, gross	0 0	12 0
Hyacinth, Roman,			Tulips, white, single,		
doz. bunches... ..	7 0	8 0	doz. bun.	9 0	0 0
Ivy leaves, doz. bun.	1 6	0 0	„ coloured, doz.		
Lilac, French, white,			bun.	9 0	0 0
per bun.	4 0	4 6	„ scarlet, single,		
Lilium Harrisii	4 0	6 0	doz. bun.	4 0	5 0
„ lancifolium alb.	2 0	2 6	Violets, single, doz	1 6	0 0
Lily of the Valley, 12			„ double, doz.	3 0	4 0
bnchs	6 0	12 0			



The Lambing Season.

Although for two months or more a few lambs may have been seen on many farms, whilst on those where early fat lambs are made a speciality, the lambing may be nearly over, yet, taking the country throughout, the great majority of ewes lamb during the month of March. Tennyson's description of this month as "The raging moon of Daffodil

and Crocus" was doubtless prompted by the memory of the lambing storms of sleet and snow on his native Lincolnshire wolds. Snow showers are often spoken of by farmers as lambing storms. It is, therefore, not too late to make a few suggestions as to the management of ewes during this critical period. Should a flock of ewes have been allowed plenty of exercise on grass, whilst, at the same time, they have been well and nutritiously fed with roots and dry foods, the owner need have little fear as to the general results. The two great dangers to be feared are abortion and false presentation. The former often causes a great loss of lambs; but the latter may, in addition, cause great mortality amongst the ewes as well.

The most fruitful cause of the latter trouble is dogging during the early stages of pregnancy. A sudden fright and stampede of a flock of ewes, owing to the sudden appearance by night of poachers' dogs, has in thousands of cases been the mysterious cause of dire trouble and loss to the farmer. Such occurrences are difficult to guard against; but shepherds owning young and badly broken collies should surely know better than to practise breaking them on a flock of ewes during autumn; yet many shepherds thoughtlessly do so, quite forgetting, or perhaps it may be in blissful ignorance of the fact, that upon the quietness and tranquillity of his ewes during the autumn months depends much of his chance of a successful and easy lambing. In the "Royal Agricultural Society's Journal" for 1901 Professor MacFadyen, in speaking of abortion, says that serious outbreaks, where as many as 50 per cent. of ewes have aborted, have almost always taken place within ten days of lambing time. If that be the case, the anxiety of the sheep breeder must be sustained until a very large proportion of his ewes have lambed before he can consider himself entirely out of the wood of his difficulties. Our own experience goes to show that a period about six weeks to two months before parturition is a critical time with the breeding ewe, and we have known many instances of outbreaks of abortion about that period. They have generally occurred during severe winters, when during the short days it has not been easy to keep the animals on a comfortable lair, and provide them with a sufficiency of unfrozen and nourishing food.

There are, however, many cases which occur after the regular lambing has commenced, and which are cases of abortion pure and simple, though they are not so termed by farmers and shepherds. It is the frequent occurrence of such cases which should warn those persons most interested that something is wrong, and the very fact that they occur at a time when, instead of being out in the open fields, the ewes are being penned up at night in confined spaces, makes it all the more necessary that no precaution which sanitary science may suggest should be neglected. An ewe will sometimes produce a pair of lambs—one dead, the other alive, but weakly, neither of them having as much wool on them as a newly-born lamb should have. An old shepherd of ours termed such lambs "paper skinned ones." The papery skin with little wool on it denotes premature birth, and, in most instances, a case of abortion. Yet these cases occur generally in confined yards, with a large number of pregnant animals in close proximity, and if there is any infection to spread there is every chance that it will do so. We have before urged the expediency of a change of sleeping quarters half-way through lambing time, because a flock of ewes so often becomes unhealthy after occupying the same yard for fifteen or twenty nights. If, however, the farmer would provide his shepherd with a drum of phenyle disinfectant, and the shepherd would take the trouble to use it freely in the yard, as well as in the small pens, especially where and when suspicious cases occur, it might prove to be a most profitable investment. It is of little use disinfecting yards and pens freely if dead lambs or afterbirths are allowed to lie about in corners or on the thatched roofs of the pens for a few days, as may often be seen in lambing yards. The rapid removal and burial of all such unwholesome objects is a necessity if a clean bill of health is to be secured.

In cases of difficult lambing, where there is much displacement of the lambs in the womb, and consequent delay in delivery, the subsequent use of antiseptic fluid as a wash to the bruised and irritated parts is essential; whilst the choice of a sedative to be administered immediately to the ewe to prevent after-paining is also very important. We have used the Gaseodyne, prepared and sold by Messrs.

Day, Sons, and Hewitt, with great success in cases of this nature. No doubt there are many other equally good specifics; but the above we can vouch for. There is a tendency, which often may be overdone, for farmers and shepherds to keep their young lambs too long in the pens. Except in cases where the ewe is suffering from fever or debility, or when an ewe with a pair of lambs takes a dislike to one of them, there is no reason for keeping them in a pen for more than twenty-four hours. Strong single lambs with healthy mothers should not be penned at all unless the weather be very wet or severe. It is rather a benefit than otherwise when lambs drop thick and fast, and pens are scarce, for then none are penned up but those which really need shelter.

Cotton is the best kind of cake to produce milk, and it is good for ewes before lambing. Afterwards a mixture of cotton and linseed cakes and crushed oats makes the best dry food to encourage the flow of milk. A few Mangolds are almost indispensable, both before and after lambing; but cold watery food, such as roots, are best kept from the ewes for a day or two, and in feverish cases until the fever subsides. Castor oil and sweet nitre should always be at hand, especially the former. On the first appearance of scour a dose of castor oil should be given, and will always do a lamb more good than harm. Mischievous sometimes arises in the case of a single lamb from the dam having too much and too rich milk. This may be rectified by giving the ewe a good dose of Epsom salts. An ewe never has too much milk for a pair. When a fine lamb, three or four days old, dies suddenly, it is often from this cause, and the shepherd with a spare lamb or two will put another to the ewe, which also dies as soon as adopted by its foster-mother. She is then condemned as a lamb-killer, and fed off, whereas a few doses of cooling medicine might have put everything right.

The Future of South Africa.

We may safely say we have two governments, our Home Administration and our Foreign and Colonial Bureau. Acting, as they do, independently of each other, they are also co-operative, both members of one great whole, and, therefore, the benefit of the one is the benefit of the other. Great Britain is getting smaller every year; girt in by her protecting seas, her sons have no standing room left. They are "cribbed, cabined, and confined" here, and have to find fresh homes away from her shores. East, West, North, and South they go, driven by stern necessity and by that spirit of adventure and love of change which seems to be implanted in so many a breast. Our colonies seem to be the natural homes for these, our wandering sons, and it is a satisfaction to think of them, though distant, as under the same old flag. It is, therefore, the duty of our colonial Governments to see that all is done that can be done to give these newcomers from the old home a fair start. We look to these colonies to be producers of those things we need daily, and which, from our limited space and geographical situation, we are unable to produce for ourselves. We are their market for food stuffs, and in return we supply them with our best manufactures. This applies, of course, to those of our dependencies which are more or less agricultural. We are, in fact, a Mutual Help Society on a large scale.

Now, about South Africa. Before we get this business fairly settled there will be a big bill to pay by somebody—a good share will fall upon us nationally, and we must make the best of our bargain when we get it. The mineral wealth of South Africa, of course, seems the predominant idea; but there is more than mineral wealth, and the mineral wealth has a way of disappearing. We may look upon South Africa as a food-producing colony, and we want food in ever increasing quantity. But to turn the vast tracts of continent to best account there are a few things absolutely necessary. First, the right men; there are many wrong ones.

Not those who for love of an outdoor life would give up their office stool, or cast away their scales and measures. Not those charming young fellows who have been sent off by parents at their wit's end to learn farming on some great holding. These young men, as a rule, get through their years of pupilage very pleasantly. A ride or a walk round the farm in the morning, and for the rest of the day the thousand and one pleasant occupations of a rich man of leisure in the country. These will not do, although there is stuff in them. Neither will the pale young student who divides his time between experimental plots and weighing and analysing in

the laboratory. If you could mix him and the other man together, you might come at a good result; but the man that is wanted is of the type of our fast decaying yeomanry—men with knowledge of the land and its requirements, the breeding of live stock, and a love for real hard work; that is the man required for a new colony. There is many a youngster who will work; but for want of knowledge and sound early training, works in the wrong direction and misapplies his labour.

The second great need is irrigation. Now, these colonies of South Africa are hot arid deserts, like parts of Western America. There is a heavy rainfall, and there are great rivers. The rainfalls are often very inopportune in their appearance; but where there is water it can be stored and turned to man's account. We have only to look to Egypt, and what is being done there can be done here. At least, such is the opinion of Mr. W. Willcocks, who is one of the greatest authorities on irrigation in India and Egypt. Mr. Willcocks condemns the present system of irrigation in toto. Our Government must take the question in hand, treating the lands as arid, or semi-arid, and proceed accordingly. The irrigation scheme would of itself give employment to many hands, and the land, when prepared for occupiers, would have to be let with the view to the future proprietorship of the tenant, subject, of course, to an irrigation rate. Mr. Willcocks advises Lord Milner that the way to make agriculture possible in the future is to spend upon it some of the money now derived from its mineral wealth, for when the mineral wealth is gone, what is there to fall back upon but agriculture? This seems rather in the far future; but governments have to consider the future more even than the present, which, in a manner, takes care of itself. With an irrigated South Africa, and a sound stock of English farmers occupying their own lands, there would, and must be, a glorious future for that country which has cost us so much in blood and money.

Work on the Home Farm.

There is very little to chronicle this week. It is simply a case of "as you were." Everything is still frost-bound, though it is now thawing slightly. We have had a week's frost, and it will take a week to thaw at this rate. The ground is frozen to a depth of 6in or 7in, and we want a good rain to thaw it quickly and thoroughly. Farmers are beginning to grumble at the waste of valuable time, and casual labourers are also in low water for lack of employment.

A good deal of threshing has been got through lately; there has been little else to do, and some farmers have practically threshed out. If ready money is not wanted the whole of the straw will soon be required for use, and there can be little left to carry over to next season. Let us hope that we may have more bulky crops this time.

It is too early to report as to lambing results, but what we hear is favourable. Sheep feeders are not so fortunate as breeders, and expressions of disappointment and disgust are heard on every side. One farmer bought a lot of lambs in August. They have been well fed on roots and cake ever since, and the Turnips coming to an end the sheep have sold for 1s. per head more than they cost. Another, making a more correct forecast of the winter forage supply, sold his lambs in September and purchased as many breeding ewes as he thought his farm would keep. Having run his sheep as much as possible on grass, he has husbanded his Turnips, and now has plenty of everything, being metaphorically in clover. The very serious question now arises. If this thaw continues, how long will exposed roots keep? They have been so thoroughly frozen that they will probably all rot when thawed. Markets are glutted with sheep, and there being no outside buyers from the grazing districts, butchers have it all their own way. A butcher was offering forequarters of first-rate mutton last week at 5½d. per lb; 6d. per lb. has been the top price for sheep in their wool for the last fortnight.

There seems to be a little move in the wool trade, as one or two local holders have cleared out. In one case there were the accumulated growths of nine years. Holding this wool and selling now must have been an expensive amusement if each year's value and 5 per cent. interest were reckoned in the account. The loss on 8,000 fleeces must have been well over £1,000.

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Three pounds of Potatoes at 25s. per ton cost 2-5d; the grain food costs ¾d. Potatoes contain more than twice as much food as Mangold or Swedes, so, therefore, ought to be cheaper at 25s. than the other roots at 12s. 6d. As Potatoes are rather laxative, cotton cake is the best food to give in conjunction with them.

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Journal of Horticulture.

THURSDAY, MARCH 6, 1902.

Foresight.



IN an age of pressure like the present, when, as a rule, there is too little time for quiet reflection, it is well, sometimes, to brush aside all obstructions or intrusions, and allow the thoughts to wander unchecked in quiet contemplation of the "Game of Life."

For it seems to me that no one can seriously dispute the fact that human existence throughout the world is a grand, fascinating, absorbing game; a game in which, as in all others, some elements of chance, or luck, contribute to success or failure at critical moments; but a game, nevertheless, in which the success of the players is in the main regulated by the skill and alertness exercised, and by the knack of turning to the best account the advantages gained at successive stages. The tactics of players in all games should, I trow, be ever changing, in order to cope successfully with the newest development of the opposing forces. The pace is sometimes fast, sometimes steady. The great point to observe is to just manage to out-pace rivals or circumstances at the critical moment, the reserve force for such efforts being steadily stored during times when less strenuous endeavour is needed. Such desirable results are, however, not achieved without a certain amount of training, or the development of many special qualities, such as foresight, energy intelligently applied, constant alertness, and skilful management. This train of thought must, however, be cut short, as to the minds of some readers will arise the thought, But what have all these things to do with gardening? My reply is, they are indubitably connected with it; in the case of those to whom gardening is the great game of life, as there are, indeed, few callings in which the player can

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to as great an extent show his individuality in his work—or in playing his serious game. With the return of spring the true gardener is ever making fresh resolutions to improve on the efforts of former years; no stone is to be left unturned to show a distinct improvement in some departments, and a general upward tendency throughout. High ideals are necessary, and, although they may not be all achieved, it is only by aiming high that continued improvement can be effected. Most of us know the wonderful value of "foresight," it is a quality to be cultivated with all the skill at command, and when fully exercised at the beginning of the season will help gardeners to avoid hosts of pitfalls which beset their path. The evening hours are times when such matters are usually thought over, and I fancy that often many valuable thoughts enter the mind, to be in turn driven out by others, and thus their value is lost as far as practical application is concerned. In such cases a regular habit of making notes has proved of great value to men in every walk of life. Any idea bearing on our business of life which seems to be particularly valuable should be noted down, and if such notes are scanned from time to time they get impressed upon the memory in readiness when the time for action comes. I have proved the value of such a practice over and over again.

Just now the order of the day is to get the numerous little improvements taken in hand in winter completed; as well as the overhauling of tools and sheds, and the sorting, sprouting and disbudding of Potatoes, so that when the soil is in a suitable condition sowing and planting may be pushed on with the necessary speed. In many cases the soil is as yet undug, as the weather since Christmas has not been favourable for such work, and there must necessarily be a certain amount of rush ere long; but the man who has "looked ahead" and has been gradually preparing for such a contingency can generally out-general another who leaves everything till the last moment. The recent frosty weather has provided an excellent opportunity for carting gravel to points where walks need repairing, and when the thaw is complete, the gravel, if laid on while the walks are pliable, can quickly be rolled into a fine solid surface. Peas which were sown in pots in January should now be thoroughly hardened, ready for planting as soon as the soil is dry enough to allow that operation to be performed. Then by giving a slight protection with spruce branches, crops can always be secured earlier than by sowing in the open air. The majority of gardeners have doubtless long ago made up their minds that plenty of everything in season will be required during the latter part of June next, and throughout the early weeks of July, on account of the many festivities which will cluster around the great national ceremony. Those who have made, and continue to make, the greatest efforts to provide for the demand will doubtless experience more pleasant times than those who have exercised no such foresight.

Roses will, of course, be wanted in huge quantities, and if they are of high quality as well they will be all the more admired. When, therefore, the beds are forked up, a dressing of some approved artificial manure, in addition to the usual quota of animal manure, will show improved results in due time. A dressing of soot during showery weather when growth has started always seems to have a magical effect on Roses, whether grown in pots or in the open air. The question of pruning is one which will this year need a little careful thought, as in warmer districts where H.P.'s are planted about the beginning or middle of March the first rush of flowers is sometimes over by the end of June. It may, therefore, be wise to prune somewhat later this season. In the case of Teas growing on walls in warm situations, a good deal may be done to regulate the time of flowering by disbudding. With some varieties the early blooms will come in May, and if the shoots are removed directly the flowers fade a succession of flowers may be obtained by the end of June.

Sweet Peas will also without doubt be highly appreciated during the great time of rejoicing, and those who have plants already established in pots will, if good attention be given, find no difficulty in getting plenty of flowers by the end of June. If seeds are sown at once under glass, and planted out in April, if the season is a fairly favourable one they should flower by the end of June. The practice of cutting lawns closely year after year, and making no serious attempt to feed the turf, results during hot summers in brown parched patches. If a good dressing of thoroughly

decayed manure and soot could be applied in autumn or winter their condition could be greatly improved; but the appearance of the dressing is generally objectionable. A dressing of artificial manure in March has, however, no such objection, and will often have a wonderful effect upon the condition of the turf during the following summer. This, then, is an important point to remember, and act upon now. There are many good lawn manures on the market, or one may be formed by mixing two parts superphosphate, one part sulphate of potash, and 1 part sulphate of ammonia, applied at the rate of 4ozs per square yard during showery weather. There are hosts of other matters connected with gardening in which the exercise of a little "foresight" at the present will help to prevent or modify difficulties which might occur later on; but these notes are not intended to deal with all such matters, but simply to cause readers to "think" and stir up their imagination to provide for possible contingencies.—ONWARD.

The Horticultural Hall.

Up to the present date, the apparent interest in the Hall question is exceedingly mild. We presume, of course, that none of the "Journal" readers need any lengthened explanations as to what is intended when we refer to the "Hall question." It is well understood that a site is being considered by a special committee of Fellows of the Royal Horticultural Society, the said site being intended for an Horticultural Hall in which the growing exhibitions of the Society may be conveniently held, and where also the shows of the other distinctive but minor London floricultural societies may likewise be centred.

We have said that the interest in the matter is apparently mild—we do not say apathetical, for that would be far from the truth, and there is substantial reason why opinion should be, in the main, reserved. Discussion of the question so very materially depends on the conditions of the committee's agreement with the party or parties to whom the site they are at present considering belongs to. But it is not our desire to focus attention on the site at all. One thing we are confident of is that the position and environs of it are such as are likely to be completely satisfactory to the bulk of the Fellows of the Society. Whether the conditions governing its acceptance are likely to be so agreeable will not be known till a special general meeting to examine the offer takes place.

What at present would seem to be most desirable for Fellows to be at unanimity upon is, firstly, the possible size of the proposed Hall; secondly, its pretensions as regards appearance, and of what it will be constructed; and, thirdly, to what extent the entire scheme will be supported (a) by horticulturists throughout the land, and (b) by extraneous contributors or contributing bodies? We have already directed some attention to the monetary phase of the question, and may return to it on another occasion. When an appeal comes to be ultimately made, our hopes are strong that good support may be expected from far beyond London. On the second point the voice of the majority will unite in a demand for, not a palace, but a Hall that will yet be a thing of beauty, and whose obtrusion to the view will pleasantly excite the multitude's imagination, and be, in fact, an edifice in every way worthy of English horticulture in this, the Twentieth Century. As a floral exhibition hall, the greater part of it will have to be light and elegant—a miniature Crystal Palace. Glass, iron, and stone; what proportion of each? Placed in the hands of the horticultural builders (as it might well be) a graceful, practicable, and superior Hall, with the qualities also of durability, should be erected without either exorbitant expense or other difficulty. It should also be quite within the range of possibility to throw the ordinary lecture rooms, offices, library, and council chambers, corridors, laboratories, museums, and other likely appointments behind the more apparent exhibition hall area, and by careful arrangement the spaciousness for these may be ample without being greatly extensive. Even in London there are beautiful churches, and of considerable size, constructed at no greater cost than from £6,000 to £10,000. Assuming the higher sum to be the possible cost of the building, forty, fifty, or sixty thousand pounds would surely buy ground sufficient for it. Previously we stated that very much larger sums had been estimated by various parties, and we are probably optimistic in saying that from £40,000 to £50,000 will suffice to cover the expenses incumbent in the erection of a perfectly suitable Hall. As we said before, however, it would give us great pleasure to have opinions from those who are most interested in a momentous question, on a unique occasion.



Dendrobium Apollo grandiflorum.

One of the handsomest *Dendrobium* hybrids of recent years is undoubtedly the one illustrated on this page, which comes from the parentage *D. nobile pulcherrimum* x *splendidissimum*. The size of the flowers is very remarkable, and they possess, moreover, extraordinary substance. The sepals and petals are waxy-white, bright rose-purple at the tips. The expansive lip is also white, but has a large blotch of deep violet-crimson in front. This fine *Dendrobe* is very moderate in price, and is one to be commended to lovers of the genus. The late Mr. J. Cypher, of Cheltenham, obtained a First Class Certificate for this variety in 1895.

The Week's Cultural Notes.

Hybrid Cattleyas and *Laelias*, and members of the genus *Laelio-Cattleya* are getting fairly well distributed among collections, and although these cultural notes are intended primarily for those who have small collections, and therefore few of these among them, yet a word may not be out of place. There is always a feeling of uncertainty about the treatment of a new plant when it is added to one's collection, even when the ruling spirit is an experienced cultivator, and much more when a tyro is confronted with an unknown kind.

When hybrids of known parentage have come into my hands I have invariably watched them closely for signs of likeness in habit to one or other of their parents. When both parents are comparatively alike in their way of growing and flowering, as, for instance, with that choice natural hybrid *C. Hardyana* (*C. aurea* x *C. gigas*), then the matter is simple enough, for one has only to follow the treatment suitable to either of its parents; but when the hybrid has been raised from parents widely differing in habit, then one has to watch the plant, note its peculiarities and anticipate its wants.

To give separate instructions for each hybrid or set of hybrids would take up far too much space, but if readers cultivate the faculty of observation as indicated above, they would find little trouble in getting the proper treatment for each. When, for instance, a plant appears restless in late summer, it is quite useless to attempt to keep it at rest. Let it take its own way; encourage it, in fact, to finish up its growth before winter if possible, for the quieter all classes of Orchids are at this latter season the better. The plants themselves are, in short, the best teachers, and to anyone who studies them closely their wants will quickly be apparent.

This reminds me of a difference in the habits of the distichous-leaved Orchids, such as *Aërides* and *Vandas*, and the pseudo-bulbous kinds like *Dendrobiums*, *Thunias*, *Calanthes*, and others. The latter push out young growths, and after very considerable progress has been made these growths begin to root. The former, on the other hand, usually have their roots active long before the growth. They have no stored-up nutriment as in the pseudo-bulbous species, consequently the roots have to forage for moisture before the new growths appear. The pseudo-bulbs, on the other hand, keep the young growths going for the first part of their existence, and only when the nutriment begins to fail do they look for it themselves by putting out a new tier of roots. I need hardly point the moral in this case; it must be obvious to anyone, and the watering-pot must be used accordingly.—H. R. R.

£200 for an *Odontoglossum*.

Through the "*Leamington Spa Courier*," we learn that *Odontoglossum crispum* var. *Mabel Whately*, which received an Award of Merit at the R.H.S. meeting in the Drill Hall, on February 25, and was described on page 190 of the *Journal*, has been sold by the owner for £200.

The Bothy.

To the younger and intelligent section of the garden staff the bothy has attraction, varying in degree according to the dignity of its surroundings. There are bothies and bothies—some home like, some otherwise. Instances do frequently occur where they have but scant recognition from owners and those to whose charge they are entrusted. Circumstances are varied accounting for this, though sometimes lack of accommodation or comfort is due not so much to the owner or his deputy, as to the young men themselves. Some appreciate home comforts more than others, while some abuse those which are provided. Items of small, though of paramount importance, could often be had if asked for or brought forward in a fitting manner before their superiors. A little discussion on the bothy and its equipment might usefully form a subject for young men themselves in the region of the "*Young Gardeners' Domain*." The *Journal* has done much to encourage the rise and progress of the future gardeners by devoting this space to their absolute purpose, and it seems to me there are many hints that the occupants of the bothy could give which would be helpful to their chief towards their betterment.

There are, from my own experience, many bothies scattered over the length and breadth of the land which might be made infinitely better by the addition of trifling aids towards convenience and comforts, and no one, it may be said, can be better informed than the occupants themselves as to the modifications needed. I would, however, advise restraint in the tone of those in quest of improved bothy equipment, for while small matters may oftentimes be amicably agreed upon, sweeping alterations

and demands remain unnoticed. They are passed in silence, and reforms go unheeded. As with everything else in garden and domestic life, so in bothydom; there are two sides open to debate. The young gardener may pile up his grievances to unknown regions, only to be razed to the ground when brought under the weight of a little reasonable argument by those in authority, and many a gardener has, I am sure, been abused in bothyland by his failure to provide all and everything which may, or may not, be necessary, when, as is often the case he has not the means of doing so afforded him. I am

absolutely in agreement with the fact that anything that can be furnished by authorised persons to better the home-life of the bothy ought to a reasonable extent be done. While this is admitted, it is not too much for an employer or his gardener to expect that a proper care and purpose is placed upon the better conditions afforded.

Abuse of the bothy and its equipment, which is not by any means uncommon, brings with it a feeling of resentment, if not contempt, and it is a fact that many a deserving man has had to suffer for the errors of others, whose method and character has not been of the higher order. Cleanliness and order often is not made a sufficiently high point in the bothy home. Many a complaint has been raised on this item, and the negligence of such a desirable trait has brought the bothy and its occupants into contemptuous conflict, even when a willingness is displayed by owner and gardener to provide every comfort.

Bothy life is often made unpleasant by the inefficient attendance of the garden woman, or the person to whom the work of cooking and cleaning is entrusted. A considerate, agreeable, and thrifty woman for the bothy is a factotum of some considerable value—a jewel much in request, but, unhappily, not always so easy to find. Even admitting all the ills pertaining to the bothy, it affords a means of independence on the part of its occupants not found even in the best of lodgings, and there is many a man with an experience of lodgings who would willingly forego what pleasantries the latter might afford for the more independent life of the bothy. Accommodation on the place is extending to gardens hitherto similarly unequipped, and the advantages thus provided add to the owners' interests on the one hand and the attractiveness of the work to the rising race of gardeners on the other, thus to the mutual advantage of all.



Dendrobium Apollo grandiflorum.

Taking into account the week and Sunday duty and the unremunerated overtime of summer, it is only reasonable that gardeners should display a due consideration for the young men under them. A great many of such there are, and it must be equally well known that a proportion of Britain's gardeners are not moved by honest effort on the part of their men sufficiently to afford them a corresponding return of appreciation. I feel fully persuaded, however, that there is often an equality of fault, though unadmitted sometimes, and, as previously intimated, friction could be stayed, dissatisfaction allayed in many instances, if only superiors were approached in a proper spirit, and their grievances or their needs were respectfully aired. The world is made up of such varied factions that it is beyond hope for the gardener born, or yet unborn, to please every bothman, but much may be done that is not done on both sides.—S.

Certificated Plants.

The Magnolia.

This genus which comprises some noble plants of great beauty of flower and even foliage, have from time to time gained recognition from the Royal Horticultural Society. The Chinese Yulan, *M. conspicua*, is, from its great beauty and floriferousness, almost supreme among spring-flowering trees. Unfortunately, when in the very height of its attractiveness, its large white blossoms are liable to be tarnished by frosts, and as the leaves do not appear until after the flowers, no protecting shelter is thus afforded. The normal habit of this Magnolia is that of a large bush; but when it forms a tall tree similar to the splendid example on the terrace of Gunnersbury House, it becomes a conspicuous object among other leafless trees. *M. Lennei*, which obtained a First Class Certificate of Merit when shown as far back as 1863 by Mr. William Paul, though reported to have resulted from a cross between the Japanese *M. obovata* and *M. conspicua*, is now regarded as a variety of the latter, the petals being exteriorly tinged with purplish pink. In 1878 *M. stellata*, shown by Messrs. Veitch and Sons as *M. Halleana*, obtained a First Class Certificate. It is deciduous, blooming in March and April, before the leaves fully develop. It is well worthy of cultivation as a pot plant, as it blooms in a young state. A variety named *rosea*, having blossoms much tinted with pink, gained a First Class Certificate in 1893, when shown by Messrs. Veitch and Sons, who, in the same year, gained a similar award for *M. hypoleuca*, which is a native of Japan, and is considered one of the stateliest of the deciduous Magnolias, and an exceptionally fine tree for the park and landscape. The flowers are creamy white with purple anthers, and they are freely produced on adult trees. *M. parviflora*, from the same firm, was similarly awarded a Certificate in 1894. It is also a native of Japan, where it forms a small tree or shrub of pleasing outline when clothed with its noble foliage. The flowers are white, and they appear with the leaves.

Malva and Marigold (*Tagetes*).

The white variety of Musk Mallow (*Malva moschata*) received a First Class Certificate of Merit in 1881, when shown by Mr. Henry Cannell. It is an excellent hardy perennial, blooming with great freedom, and successively. It makes a fine bunch for exhibition purposes, and it seeds freely. In 1872 I exhibited a dwarf double yellow form of French Marigold, under the name of *Aurca floribunda*, and obtained for it a First Class Certificate as a desirable bedding plant. Fifteen years later it was again shown by Messrs. Dobbie and Co., Rothesay, and received an Award of Merit. It is not often the same subject secures two awards of this character. Another dwarf form, the miniature orange African, secured a similar award for Messrs. Carter and Co. in 1885. Messrs. Dobbie and Co., who make a great speciality of their African Marigolds, which they have greatly improved of late years, had, in 1887, First Class Certificates for their selections of lemon and orange African Marigolds. Later in time the popular single French Marigold, *Legion of Honour*, which is an excellent subject of a riband line, received an award of merit.

Myosotidium and Myosotis.

Occasionally one sees the one representative of this monotypic genus, *M. nobile*, the Chatham Islands Forget-me-not, shown in very fine character. It was so in April, 1886, when Sir R. Loder sent plants to the R.H.S., and obtained for it a First Class Certificate. It is a noble herbaceous perennial, nearly hardy, very difficult to cultivate, and most impatient of root disturbance, and seems to do best in a cool, damp sheltered spot out of doors. It is a curious fact, and to me a surprising one, that the spring flowering *Myosotis dissitiflora* has never received an Award from the Floral Committee, nor its fine variety *Perfection*. The pretty dwarf *M. rupicola* gained a First Class Certificate in 1865, when shown by Messrs. Backhouse and Son, of York. In 1891 Mr. W. Marshall, the present chairman of the Floral Committee, obtained an Award of Merit for *Bexley Gem*, a blue flowered variety of the Victoria type, of dwarf and compact growth, allied to *M. alpestris*, the Alpine Forget-me-not;

and in 1896 M. Rehsteineri received a First Class Certificate when shown by Messrs. Paul and Son. This is a blue flowered species, very dwarf, and forming in its growth moss-like tufts.—R. DEAN, V.M.H.

Pomological Notes.

Wall Cases.

These are admirable means of growing choice fruits. They should be provided with both top and bottom ventilation, and the roof lights, excepting the ventilating ones, be moveable. I have tried both systems, fixed and moveable roof lights, and find the latter far the best. The roof lights are taken off directly the leaves of the trees commence falling, and off they remain until the buds have the blossom peeping. This means, with Apricots, replacing the lights a month or more earlier than for other fruits, and necessitates having the trees of the different kinds in compartments. The system answers admirably for Apricots, which produce fruit abundantly, and the trees are remarkably healthy, and free from gumming to a much greater extent than those on open walls. Cherries do even still better than Apricots, giving fruit at the close of May or early in June in forward seasons, and which can be kept from the depredations of birds, cracking, or spoiling by wet. Plums do well, and are never so fine and luscious as when grown under glass. Peaches and Nectarines afford a supply of fruit from July to October inclusive. Pears revel in the spring time, and the fruit attains to a size and colour seldom seen on open walls, but the quality is often defective. It is desirable to expose the trees to the weather after the weather becomes settled in June, and then a crop is secured with quality in the fruit. The better plan is to grow the Pear in pots, and only place the trees under glass for and securing of a crop. Figs ripen one crop of fruit in August and September; also Grapes, early varieties of the latter being selected, and they are quite as good as those produced in expensive vineries. Anything in the way of pruning should be completed, the trees and structures being put into proper order. The borders of houses that have not the lights removed may need supplies of water, so as to bring the soil into a moist condition. Ventilate freely, so as to retard the flowering to as late a period as possible.—G. A.

The Cherry House.

When the flowers are perfect and the fertilisation effectual, the Cherries will be swelling at the base of the decayed blossoms, then syringing may be resumed once a day until the remains of the flowers are cast off and the weather is clear and warm, then syringing on the morning and afternoon of fine days may be practised. Fire heat will only be necessary to prevent the temperature falling below 40deg at night and to maintain 50deg as a minimum by day. Ventilate at 50deg, closing at the same, regulating the ventilation according to circumstances, but not allowing a rise above 65deg without full ventilation. If green fly appear fumigate the house, and if black aphid presents itself, for which a sharp look-out should be kept, assail it on its first appearance with the tobacco water, applied with a brush to the affected parts. The foliage must be kept dry when fumigation is practised. Keep a strict look-out for grubs or caterpillars, as they roll up the leaves, and must be crushed or searched for and destroyed. Pinch out the points of the shoots when they have made 4in to 5in of growth, removing those shoots that are not required. Train extensions in their full lengths; also those for filling vacant spaces. Overcrowding must be strictly guarded against, it being prejudicial both to the present and future crops.—G. A.

Potting Pines.

Once the suckers and other plants subjected to similar treatment start they make roots rapidly, therefore have soil ready for transferring them to the fruiting pots, as it is important that they be grown without check by being either root-bound or dry. Sound fibrous loam in good-sized lumps is the best material for potting, rejecting the dusty particles. It should be pressed firmly round the balls of the plants, watering them if the soil be dry (not otherwise) with tepid water, and plunging them in a bottom heat of 90deg to 95deg until the roots have possession of the fresh soil, when 85deg is most suitable. The top heat should be maintained at 60deg to 65deg, and 70deg to 75deg by day, with 80deg to 85deg or 90deg from sun heat.—P.

Fruiting Pine Plants.

Those at or near the flowering stage should have a night temperature of 65deg to 70deg, and 75deg by day, with 80deg to 90deg from sun heat, closing at 85deg, well damping all walls and paths at the same time. Succession plants may have a bottom heat of about 85deg, ventilating at 80deg and closing at 85deg, lightly sprinkling the plants occasionally. A genial atmosphere should be secured by damping the floors and pit walls as they become dry, but it is not good practice to syringe the bed between the plants. Examine the plants once a week, and supply tepid water containing a little stimulating substance, such as guano and soot, when required.—PRACTICE.

NOTES & NOTICES

United Horticultural Benefit and Provident Society.

The annual meeting of the above Society will be held at the "Caledonian Hotel, Adelphi Terrace, Strand, on Monday next, March 10, at 8 p.m. Mr. Herbert J. Cutbush has kindly consented to preside.—W. C.

The Scottish Horticultural Association.

On Friday evening, March 21, at 7.30, in "F. and F.'s" Rooms, 129, Princes Street, a dinner, to celebrate the semi-jubilee of the Association, will be held. Mr. A. Chalmers, 24, Frederick Street, Edinburgh, is convener of the dinner committee.

Horticultural Club.

The usual monthly dinner and conversazione will take place at the Hotel Windsor, Victoria Street, on Tuesday, March 11, at 6 p.m. The subject for discussion will be, "Birds in their Relation to Horticulture," to be opened by Mr. Charles E. Pearson, postponed from December 17.

Show of British-grown Fruit.

The Prize Schedule for the Crystal Palace Fruit Show will be issued by the Royal Horticultural Society on March 31, post free one penny. Donations towards the prize fund will be gratefully received by the Secretary R.H.S., 117, Victoria Street, London, S.W.

The Nursery and Seed Trade Association.

The general meeting of this Association will be held at 30, Wood Street, Cheapside, on Tuesday, March 11, at 5 p.m., to transact the following business:—To submit for adoption the report of the committee of management. To elect committee of management and auditors for the current year. To discuss and consider any subject which may be beneficial to the nursery and seed trades, and to the Association. After the above meeting has been held the committee of management so appointed will immediately afterwards hold their first meeting to elect the officers of the Association for the current year.—J. P. W.

Royal Horticultural Society.

The next Fruit and Flower Show of this Society will be held on Tuesday, March 11, in the London Scottish Drill Hall, Buckingham Gate, Westminster, 1 to 4 p.m. The Committees will meet at noon, as usual. A lecture on "The New Soil Science" will be given at three o'clock, by Mr. R. Hedger Wallace. * * At a general meeting of the Society, held on Tuesday, February 25, seventy-two new Fellows were elected, amongst them being the Marchioness of Bath, Lady Ebury, Lady Lewis, Lady Peel, Lady Ridley, Hon. Mrs. Parker, Hon. John Wallop, Lieutenant-Colonel James Campbell, Major W. D. Garnett-Botfield, Surgeon-General A. Eteson, Captain B. J. St. George, and A. H. Lyell, M.A., F.S.A., making a total of 255 elected since the beginning of the present year.

Horticulturists and the Sale of Poisons.

At the Newcastle-under-Lyme Police Court, on Monday, March 3, Moses Jenkinson and Ernest Jenkinson, florists and horticulturists, of Newcastle, trading in the style of M. Jenkinson and Sons, were summoned at the instance of the Pharmaceutical Society, under section 17 of the Pharmacy Act, 1868, for selling a poisonous vegetable alkaloid without a label being attached to the vessel in which it was supplied bearing the word poison and the name and address of the seller. A pint of XL All insecticide was supplied in an old brandy bottle without any label except one relating to brandy. No warning was given. Morgan used a little of the insecticide and placed the bottle on a bench in the potting shed at his employer's garden. On January 23 a man named Thomas Bullock was working in the garden, and some beer which he sent for was also put in the potting shed. The beer was in a bottle very similar to that containing the insecticide, and Bullock in mistake drank some of the latter and died in a short time. After a long hearing the chairman said the Bench were unanimous that an offence had been proved, and fined the defendants £2 and costs.

Potato Planting in Waterville.

Potato planting is now in full swing in the Waterville district, Co. Cork. Previous to the late frost and snow, many farmers and cottiers had large plots of Potatoes already down, and it is feared that some damage has been done by the very hard and penetrating frost.

Weather in S. Perthshire.

There was a slight frost during the night of the 25th ult., and the surrounding hills were again whitened during the following night. Generally, the past week has been one of dull, and frequently showery weather, the exceptions being the 1st and 2nd inst., which were both very fine for the season. Monday kept up a persistent drizzle, with a rather high and cold south-westerly wind in the later part of the day.—B. D., S. Perthshire.

Sussex Weather.

The total rainfall at Abbots Leigh for the past month was 1.45in, being 0.45in below the average. The heaviest fall—snow—was 0.26 on the 6th. Rain or snow fell on twelve days. The maximum temperature was 53deg on the 28th, the minimum 12deg on the 16th. Mean maximum, 40.10deg; mean minimum, 29.23deg; mean temperature, 34.66deg, which is 2.78deg below the average. During the first two days of this month we had slight falls of snow (the first of this winter), and from then to the 20th the ground was frost-bound. We had rain daily during the last week, and March has come in fine, and much milder.

February Weather at Belvoir Castle.

The wind was in an easterly direction twelve days. The total rainfall was 1.17in; this fell on fifteen days, and is 0.64in below the average for the month. The greatest daily fall was 0.19in on the 22nd. Barometers (corrected and reduced): highest reading 30.797 in on the 1st at 9 a.m.; lowest reading 29.233in on the 27th at 9 a.m. Thermometers: Highest in the shade, 53deg on the 28th; lowest, 11deg on the 13th; mean of daily maxima, 38.82deg; mean of daily minima, 28.17deg; mean temperature of the month, 33.49deg; lowest on the grass, 8deg, on the 13th; highest, in the sun, 93deg, on the 28th; mean temperature of the earth at 3ft, 37.67deg. Total sunshine, 75hr 5min. There were thirteen sunless days. This has been the coldest February we have had since 1895, when the mean temperatures were—Maximum, 34.53deg; minimum, 20.00deg; mean, 27.26deg. We had snow on the ground twelve consecutive days, from the 8th to the 19th. The early spring flowers are much later than usual.—W. H. DIVERS.

Presentation to Mr. and Mrs. H. G. Cox.

A pleasing ceremony took place at the ordinary meeting of the members of the Reading and District Gardeners' Mutual Improvement Association, on Monday, February 24, at the Abbey Hall, Reading, Mr. H. G. Cox, the energetic and courteous secretary, being the recipient of a handsome testimonial at the hands of the President (Mr. L. Sutton) as a token of the appreciation felt by the members of his valuable services to the Association, which have now extended over a period of some years. Mrs. Cox also was recognised in this gratifying mark of esteem, she being presented with a handsome solid silver tea service (consisting of teapot, cream jug and sugar basin) in morocco case, while to Mr. Cox himself a valuable half-hunter gold watch was handed. The gifts were accompanied by a framed illuminated address, bearing the photographs and the names of all the working members of the Association. The presentation was made in the presence of a large gathering of members, Mr. Leonard Sutton presiding. The inscription on the address was as follows:—"We, the undersigned members of the Reading and District Gardeners' Mutual Improvement Association, wishing to express our appreciation of the services rendered by Mr. H. G. Cox as secretary, have this day presented him and Mrs. Cox with a silver tea service and gold watch as a token of our esteem and regard." Mr. Cox responded on behalf of himself and wife. He said it might interest the members to be reminded that the first meeting of the Association was held on December 6, 1888, when 54 members were elected. There were now 229 names upon the books, and there were three new members to be elected that evening. He had no doubt that at the present time the Association was the strongest of its kind in the country. It would be his endeavour to try and keep up the tone of the Association.

Plant Hybridisation.

Dr. J. H. Wilson's lecture to the Scottish Horticultural Association on Tuesday, Feb. 4, being of surpassing interest, a few supplementary notes to the report which appeared in a former issue may be acceptable to many readers of the *Journal of Horticulture*. Introducing his subject the genial doctor remarked that Nature in its normal condition would, no doubt, in the course of time evolve improvements of species, but this being merely chance, the skill of the hybridiser, and the work of selection must be brought to bear upon it in order to arrive at the end in view as quickly as possible.

The first illustration he showed upon the screen was a very floriferous Oriental Poppy, a hybrid between *P. pilosum* and *P. orientale*. *P. orientale* being rather a shy flowerer, he desired to raise a hybrid which would remedy this defect, and was so successful in his effort that on the plant in question over forty buds could be counted in different stages of development. Sad to relate, however, this fine plant succumbed to the rigors of a hard winter.

As his second illustrations he said he wished to obtain an intermediate colour between *Centaurea candidissima* and a native species growing wild along the Fifeshire coast, the first having a yellow and the last a fine purple flower. He crossed these two, and the result was a hybrid with foliage truly intermediate, but it has not as yet flowered. Hybrids of *Digitalis lutea* and *D. purpurea* flowered profusely, many showing very fine markings, and a white variety was exceedingly beautiful, throwing spikes 8ft high, yet never bearing a single seed. Variegation in plants being an extremely interesting study, Dr. Wilson said he would draw attention to one or two points regarding the matter.

In some plants this trait is very pronounced, showing even in the seeds and cotyledons. Illustrations of variegated *Pelargoniums*, showing how the variegation weakened the growth, and *Abutilon* (*vexillarium*) *megapotamicum*, inarched on to a green hybrid, with traces of the variegation descending into the green plants, were exceedingly interesting. Being at one time an enthusiastic cultivator of *Begonias*, the doctor made some interesting experiments with them.

By crossing the tuberous *Begonia* with *B. coccinea*, the seeds ripened well, and a good quantity of fine healthy seedlings was the result. These having flourished all summer without showing flower, and making no root growth in the form of a tuber, he had watched carefully what habit they would assume during the winter. Losing a great part of their foliage, and dying down within a short distance of the pot, they retained the appearance of being medio-fibro-tuberous. One feature worthy of notice with these seedlings was that the leaves were in a great many cases spotted, although both the parent plants showed no such marking on their leaves. By raising *B. coccinea* from seeds, however, many of the seedlings were marked in like manner, thus showing that the original type must have been marked in similar fashion. By the aid of splendid illustrations he described the structure of an Orchid, the process of fertilisation, the ripening of seeds, and other features.

The doctor then proceeded to deal with *Passifloras*, a genus

which has received considerable attention from him, and under whose cultivation they have also been eminently successful. Some of the hybrids growing in his glass houses at St. Andrews would, if passed into commerce, prove remunerative; but as the doctor informed his audience, none of his plants have ever been put on the market. Specially fine was the variety Margaret Wilson, a hybrid between *P. cærulea* and *P. alba*. This variety has been figured in "The Gardeners' Chronicle," and is of surpassing excellence. Many other hybrids were depicted, as also were illustrations to prove how the size of the leaf and number of lobes was modified by the parent plants.

Albueas were next dealt with, and the results obtained by crossing such varieties as *corymbosa*, *prolifera*, *Nelsoni*, &c., were described. *Streptocarpus* hybrids are at present engaging the attention of Dr. Wilson. *Tritonia* *Wilsoni* is a rare plant sent to the doctor by his brother, from South Africa,

and of which the latter has, perhaps, the only stock in Europe. The flower resembles the well-known *Tritonia* (syn. *Montbretia*) but is distinguished by its lavender colour. Besides experimenting in flowers, time is found to give attention to vegetables and fruits.

It is hoped that by crossing *Allium Macleani*, a plant introduced from Cabul, where it is used extensively for salads, with either the Onion (*Allium Cepa*) or Leek (*Allium Porrum*) to make it fit for culinary purposes. Very interesting were the illustrations and account of a hybrid between the Black Currant and Gooseberry, possessing the appearance of being an exact hybrid between the two. Strange to say a plant of this kind was raised by Mr. Burbank, of America, about the same time, and in appearance they are identical, only Mr. Burbank's fruits much more freely. A lucid account of a visit to the two eminent American hybridists, Mr. Burbank and Professor Hay, brought a most enjoyable evening to a close.—SCOTIA.



Lesser known Hellebores.

Helleborus colchicus magnificus (rich purple); *H. niger* scoticus (perfectly white).

Tree Carnations.

The earliest batch of these will be rooted, if not potted off, but for plants to flower after next Christmas propagation may be done now. Side shoots, about 3in long, form the best cuttings. These should be taken off with a heel and inserted in a sandy com-

post round the sides of small pots, and placed under handlights in a temperature of 65deg to 70deg. Here they will root quickly, and will need gradually inuring to a temperature of 60deg when rooted. A few days in this temperature and they may be potted singly into thumb pots, using a compost of loam, leaf mould, fine brick rubble, and sand. Following this, keep them close in a temperature of 65deg for about a week, syringing them daily, whence they will soon take to the new soil and may be given more air, and lower temperature (60deg) will keep them growing nicely. The points of each shoot should be taken out when the pots are becoming filled with roots. This will cause them to break, and form the foundation of good plants.

Pot them on again into a 4in or 4½in sized pot so soon as the new shoots are making headway. Use the loam fairly rough and pot firm, but do not ram it road-hard—a tendency young men have in these days. Keep them well syringed, and give air freely as the season advances. These pots soon will be filled with

roots, and they will now need their final shift. Seven-inch for the strongest and 6in for the lesser ones is large enough. A little soot and artificial manure should be added at this potting.

They will now need to be placed in an open frame or plunged in ashes out in the open, providing they can be sheltered from heavy rains. During summer it is most essential to use the syringe twice daily; soot water is very beneficial, both for syringing and watering when the plants are established. If the plants are wanted to flower early the first buds may be left; otherwise these are best sacrificed, giving the plants a little more time to mature their growth.

When the plants are housed they must be afforded abundance of air at all times, maintaining a steady heat in the pipes with a temperature of 50deg to 55deg, according to weather circumstances. Water must be afforded carefully, mixing a little artificial manure with it occasionally. The stages must be kept in a moist condition, and the plants syringed whenever possible. For varieties I would commend Mdle. Thérèse Franco, which still holds its own; Miss Joliffe cannot yet be dispensed with; Mrs. T. W. Lawson is good in colour and a good "doer;" W. Robinson and J. P. Rugrus are fine scarlets. For whites I should choose Glacier, Flora Hill, and Mrs. Moore. Many more might be added to these, but those enumerated may be depended on for the main batches.—FLORIST.

point of view, the Hellebore is most decorative and a fine plant; but to see it really beautiful the plant must be grown under special conditions—namely, it is absolutely necessary for the plant to be grown in shade and to be protected from the morning sun and cutting ground winds, which means that the plant should be planted under the shade of trees, with a north-west, west, or south-west aspect. Again, the plant is not decorative until the third year, and when it is established it should not be moved unless absolutely necessary. If the plant is moved, it is advisable not to split the clump up too small, and if it is split up it should be broken asunder and not cut. Further, the Hellebore suffers during very dry weather in summer, and if planted where it is likely to be overlooked with water and not in the shade, it is advisable to give it a good mulching. Peat moss litter will be found good for this purpose.

"There are some lovely varieties obtainable among the seedling forms which we offer as mixed hybrids on page 38 of our catalogue. We can strongly recommend these being largely planted in woodland walks. The plant is essentially an outdoor winter, or early spring flowering subject, and is not of much service for cut flowers, as directly the *H. orientalis* varieties are placed in water they flag unless the flower bracts are submerged in water, which makes them difficult subjects to bring on the exhibition table for shows or to use for indoor decoration. *H. niger*



Typical Specimens of the Stellata Primulas.

The Hellebores.

In reference to the figure appearing on the opposite page (sketched from flowers recently shown by Messrs. Barr and Sons, King Street, Covent Garden, W.C.), Mr. J. W. Barr kindly contributes an interesting letter which it may not be a breach of courtesy to print in full. He says:

"*Helleborus colchicus magnificus* is a seedling variety of *H. colchicus*, and has been in commerce for about five years. *H. niger scoticus* is a good form of *H. niger*, which I picked up in an old Scotch garden some years back. The whole family of Hellebores was really worked together by my father, and not by me. He first took them in hand about twenty-five years ago, when we had our nursery at Tooting. It contained specimens of all the existing plants in the botanic gardens of Europe, and a large number were collected in Germany, which proved to be mostly types of *H. viridis*. I need hardly say that a great confusion existed in the names, and many a long, weary, and cold day have I spent in his company in the early days of February and March endeavouring to classify the numerous specimens and bring them into order. The late Mr. Moore, of Chelsea Botanic Gardens, was a great enthusiast for these flowers, as also the late Dr. Hogg, and during the flowering season used to spend most of their Sundays at Tooting with my father. From a garden

varieties, many people fail with these on account of their being planted in hot sunny borders or in dry soil and neglected with water during summer, when the foliage is allowed to dry up, the consequence being that few, if any, flower buds are formed."

—J. W. BARR, Long Ditton."

Chinese Stellate Primulas.

The stellata forms of *Primula sinensis* are most useful plants for the decoration of the conservatory, drawing-room, or for cut flower during the winter months. Plants of this section will look quite fresh after being in the dwelling-house a fortnight; in fact, they seem to enjoy the hot dry rooms. We have had a grand lot for the past three months from seed supplied by Sutton and Sons, and they are still flowering well. I would advise anyone who has not grown the Star Primulas to give them a trial. There are now many varieties, with varied shades of colour. The only accommodation requirements are a cold pit and a warm greenhouse. The illustration is from a photograph of plants grown here, and taken by my employer.—G. T. C., Shipbourne Grange, Kent.

Seaside Planting.

(Concluded from page 580, last vol.)

I may now conclude by an enumeration of a few deciduous shrubs.

Sea Buckthorn (*Hippophaë rhamnoides*).—This native plant finds a congenial home on the English coasts, being as "hard as nails," and especially useful for growing on the sea-coast either in the cold North or balmy South. It will grow in almost pure sand, and where constantly exposed to the fiercest blasts. For affording shelter it has no equal in shrubs. Its twiggy branches and growth, ending in spines, sift and split the wind in a most beneficial manner.

Tamarisk (*Tamarix gallica* and *T. germanica*).—These shrubs grow with great freedom in poor soils, even in almost pure sand. The former grows to a height of about 12ft, and has nearly as much branch-spread, and produces an abundance of showy flowers. The latter is the dwarfer, attaining to a height of about 6ft, has small leaves, and conspicuous spikes of reddish flowers. Both transplant well, and are excellent for seacoast planting, especially on English coasts.

Common and Double Gorse (*Ulex europæus* and *U. e. flore-pleno*).—For maritime wastes, high and dry; for though the Furze, Gorse, or Whin will grow in stiff clay as well as on stony ground, it detests water-logged soils. Not any indigenous or exotic shrub surpasses this in golden sheen or in sombre greenness, even when leafless, nor any withstand the winds and storms better on the seacoast at high elevations. Indeed, the double Gorse is a very beautiful plant, literally all "gold" in the spring. Common Gorse should be sown where it is to remain, and it forms not only excellent shelter to partridges on the inland parts of cliffs by the sea, but adorns the often otherwise monotonous swarth. Double Gorse requires to be in pots for ensuring safe transplantation.

Sweetbriar (*Rosa rubiginosa*).—Who does not love sweet Eglantine? The sweet-scented foliage perfumes the air, and drives "dull care," if not, indeed, disease, "away." The fruits in autumn are even more attractive than the pink flowers of summer, though the sweet scent of the plant is the great charm. It likes a generous soil, light rather than heavy, and, in any case, well drained.

Snowberry (*Symphoricarpos racemosus*).—This plant spreads rapidly by its suckers, and it forms a good wind-break, though only growing over 4ft to 6ft in height. The flowers are much sought after by bees, and its large white fruits, persistent through a great part of the winter, form excellent food for game.

Dogwood (*Cornus sanguinea*).—The Dogberry has greenish-white flowers in cymes during June, and not pleasantly scented. Its branches, however, are dark red, and the wood is good for skewers, arrows, and gunpowder-making. Better, it stands the sea breeze bravely, and will grow in the drip of trees, hence useful for thickening plantations, and does best in damp situations.

Flowering Currant (*Ribes sanguineum*).—This very handsome shrub thrives well in positions near the sea, and in the spring is very effective. It thrives in any ordinary generous soil, and if rather damp, but not water-logged, all the better.

Common and Persian Lilac (*Syringa vulgaris* and var. *alba*. *S. persica*).—The common Lilacs are tall-growing, and the Persian only about half the height. They do exceedingly well near the sea, and are beautiful in flower as well as sweetly scented.

Willow-leaved Meadowsweet (*Spiræa salicifolia*).—The terminal racemes, rosy or pink, of this plant are attractive in July and August, and it spreads considerably by its stoloniferous roots. It thrives by the sea, and will form a dwarf hedge.

Spanish Broom (*Spartium junceum*).—In August the bright yellow flowers of this shrub are very conspicuous, and it is one of those that bear cutting in or even down well, hence may be kept relatively dwarf, indeed cut down annually without prejudice to the flowering.

Common and White Brooms (*Cytisus scoparius* and *C. albus*).—The first has yellow flowers, and is the hardier, being a native; while the other has smaller and white flowers, produced in the greatest profusion during May. The Brooms prefer light, well-drained soils, but grow well near the sea, only standing high and dry.

Guelder Rose (*Viburnum Opulus*).—The Snowball Tree has white flowers in a sub-globose cyme during June and July. It does well by the sea, though not in the front rank.

Blackthorn or Sloe (*Prunus spinosa*).—What is there that this spring bush will not stand in the way of bleakness? It flowers in the early spring when few other shrubs dare, and stands the sea breeze well, though not nearly so bravely as the Sea Buckthorn. It is valuable for coverts by the sea.

Deutzia crenata syn. scabra.—In generous but not very rich soil this very handsome shrub grows well by the sea-side, and produces its white racemes of flowers in May and June.—GEO. ABBEY.

The Rosery.

Octogenarian Roses.

One does not often hear of such aged Roses, nor do I wish to suggest that they actually reach this age in a separate existence, but to have a bed of Rose trees that an owner can point to as being in his family's possession for at least eighty years is certainly something to be proud of, and something not common. This, however can be claimed by the venerable Sir John Wallington, of Keevil Manor, Wiltshire. In a border on the outskirts of his lawn are a quantity of the old-fashioned Cabbage Roses, that Sir John Wallington can trace back clearly for eighty years. How much longer than this they may have been in the family possession is not certain. Despite the length of faithful service these Roses have given, they yield their annual wealth of deliciously fragrant blossoms, and are a floral treat that nowadays is not given to everyone. They were, no doubt, a legacy handed down from former members of the family, and it is certain they could not have fallen into better hands than those of their present owner, and when the time comes, which is not hopefully anticipated, for these Roses to fall into new hands, we feel sure posterity will not soon forget one who has so tenderly watched them through the vicissitudes of so many winters and summers. They are, of course, grown on native roots, and the succession maintained by cuttings or layers. Sir John Wallington is an equally keen enthusiast in border Carnations, his collection being kept up to date by the introduction of the best of the novelties available from the best sources. Locally Sir John Wallington's name is intimately associated with Carnations, and there are few better judges of a good florist's type of flower.—W. STRUGNELL.

Garden Roses.*

"Besides beds of the grand Hybrid Perpetuals and Teas, we can use the older Roses intelligently. We want the Damask, and Provence, and Moss, and old Pink China in beds and pretty grouping; the neat habited American lucida and its charming double variety; and the Scotch Briars, so good on banks in poor soil; and the rest of the old favourites, for some use or another. The newer introductions are soon at home with us. The Japanese rugosa has become indispensable, and now that hybridists have taken this grand hardy thing in hand the lovely varieties that are being raised are greatly increasing our stock of garden treasures. No kind of Rose is better for massing in exposed places or on rough banks; it is free and hardy in its vigorous bushy growth, and will do well even in London.

"The most remarkable development of all, and the one that gives the strongest evidence of the lately enlarged interest in practical gardening, is the increase in the numbers of the rambling Roses and the single kinds of free growth. These comprise the good old Roses that come within the classes known as Ayrshire and sempervirens, with the addition of those derived from the Musk Roses and the Himalayan *R. polyantha* and *R. brunoniana*. Every new garden that is being laid out is providing for a pergola or arbour or flowery screen where these beautiful growths may be displayed, while older gardens are being carefully looked over to find the right places for the placing of some of the wealth of material that only awaits careful choice and judicious use. Many a modest garden has a field hedge for its boundary. Whether on a bank, as is usual in the southern counties, or not, such a hedge generally has thin or gappy places where a free rambling Rose will show its best beauty. The sloping grass banks that are dull features in so many gardens may be beautifully clothed with the Scotch Briars or with *Rosa lucida* or the rugosas, or, if of a large extent, with some of the Ayrshire, so beautiful in their natural way of growth without any artificial support, or with the fast-growing, the close-trailing *Wichuriana* or one of its descendants. Another way of using the free Roses is to let them run up old trees that are not too full of branches, or for the clothing of some half-bare or unsightly shrubby space. The well-known ways of having Roses on pillars and arches are already practised; but there should be more use made of a support, whether high or low, of not one post only, but a circle of posts some 6ft across, to show the free Roses in still greater masses."

* Part of a short paper by Miss Gertrude Jekyll, V.M.H., in the "Rosarian's Year Book" for 1902.



Chrysanthemum Rust: Is it Dying Out?

That the dreaded Chrysanthemum rust has done, and will yet disturb the minds of many growers may be regarded as certain; but what is the answer to the query, "Is it dying out?" to be? In a contemporary some correspondence has been perused with keen interest, and one very sanguine contributor satisfied himself that because the corresponding columns of his weekly paper did not enlarge on the prevalence of the scourge, he ventured boldly to assume that the disease must be rapidly dying out. It would, indeed, be a matter of much consolation if such an opinion could be accepted as correct; but, unfortunately, as with another infectious disease of another kind which has been heard so much of this winter, statistics do not show that such a happy state is existent.

Certainly it is not a little curious that while in one garden there is an entire absence of the scourge, in another there is always present an element of worry on the part of those in charge of the plants because of its presence, and that despite steps taken with remedial measures for combating it. I can name two gardens where several hundreds are grown in each, both for large specimen blooms and decorative plants, and where in each during the past season not a spot of the rust was seen; yet the plants were treated in the ordinary manner as regards feeding with stimulating manures, both artificial and natural liquids.

I think the percentage of those who can claim to be entirely free must be a small one, for so many complain, if not of serious consequences, at all events they have diseased plants; and that being so, there is contagion likely to develop, slightly or seriously, in its season should the weather and other circumstances be favourable. The opinion of some growers is that it comes, or at least is fostered, by feeding with rich manures; others, again, assert that well-fed and vigorous plants are not so liable to attack. The evidence therefore, remains in a state bordering on conflict, and it would appear to be difficult for the one or the other to carry conviction beyond their own sphere.

Some very interesting experiments have been carried out by some growers, and duly recorded; and while in these there would seem absolute and satisfying proof from that particular point of view, another would step in and show opinions derived from cause and effect which shake their opponents' theories violently. In the matter of fungoid diseases theory does not seem to rise to the useful occasion. Many antidotes have been tried with varying success, but science has yet to find the remedy that can claim to deal effectually with the rust anywhere and everywhere. Some kinds are much more prone to attack than others, which would suggest as a partial remedy a banishment of those the worse diseased. Instances can be cited where growers having a clean stock have refrained from introducing fresh cuttings or plants for fear of infection, and yet, though a season or two may pass without a trace, a time comes when immunity fail them. The growth of Chrysanthemums under such restraint must be most uninteresting. The passion for novelty nowadays is such that, despite the danger of infection, enthusiasm brushes aside such illusionary ideas, and embarks on the road of chance, either to win or to lose.

It is not uncommon for an exchange of cuttings from an infected stock to pass into the hands of another and yet go free from rust. Should it develop in the cutting stage it is possible, at any rate for the time being, to stamp it out by overhauling the entire stock, picking off the worst of the leaves, or, if there be only slight traces, remove every leaf showing a spot and burn them. If this is repeated in the earlier stages the rust plague may not be seen again during the season, or it may appear in the autumn—September and October. Veltheim's fluid, soluble petroleum, and other solutions, all serve to keep some collections safe and free, and have their adherents according to the success following their use; but while they are each claimed to be all that is good in individual instances, the same success does not follow the universal adoption of either.

Scientific minds have still plenty of scope in finding the prescription that can allay at one stroke the Chrysanthemum and other kindred fungoid diseases, and the attendant worries their presence creates in the minds of those who are so unfortunate as to possess a fertile stock. Much may be done by discarding those varieties that are predisposed to the ravages of the rust; and if on some future occasion a list of those sorts were compiled by growers that are so extremely liable, it would be the means to many of avoiding those that are rust-inviting. During

the coming season growers would do well to make note of those kinds that afford "cover" for the scourge, and impart the information for the benefit of others, so that in purchasing or exchange each may act as "censor" on their own and fresh introductions from any source. Change of stock must not be held as a means by which alone infestation comes; it is just as likely to appear by rigid exclusion, consequent on debility.—W. S., Wilts.

Chrysanthemum Australiae.

In Chrysanthemum notes for February 20, page 164, this variety was incorrectly described as yellow. It is rosy amaranth, with silvery reverse.—Yours faithfully, W. WELLS.

Aberdeen Chrysanthemum Show.

The secretary of the above, Mr. M. H. Sinclair, 18, Market Street, Aberdeen, in a letter to us points out that the Chrysanthemum Nellie Pockett figured on page 143, February 13, obtained first prize in the specimen plant class at the Aberdeen Chrysanthemum Show last November. In referring to the forthcoming schedule of the same society, he mentions that £150 odd will be awarded in prizes. We trust Mr. Sinclair may send further notes from time to time.

Australian Varieties.

In my recent notes on the above I referred to some fine crimson-coloured Japanese sorts which were known by numbers only. Having been furnished with the names, I can now give descriptions of them. Perhaps the grandest form is T. Humphreys, a really fine exhibition flower. The colour is rich crimson scarlet. It is a large, deep, full reflexing shape. The petals have fine substance. It is rather tall in growth, but stout, and altogether a valuable acquisition. Mrs. C. J. Salter is crimson, with old gold reverse. It is full and deep, and most striking. Matchless is a bloom of wide, recurving shape. The upper surface colour—a rich deep maroon—is the shade seen in the whole flower. The old Wm. Seward, much larger, and of greater substance, would describe it perfectly. Lord Alverstone is another fine crimson maroon, very rich and vivid. This is a full, deep bloom, composed of wide, thick florets, and the habit of the plant is exceptionally dwarf.

Kitty Duncan is a full, reflexed crimson flower, not over-large, but valuable for general culture, because of its free-flowering qualities. Claremont: The most remarkable thing about this variety is the broad florets, which measure nearly an inch; colour, Indian red, distinct and striking. It is a full bloom of exhibition size. Ben Wells: In this kind we have a white which will surely be big enough to please. Blooms of it measure 10in across as they stand on the plant. The florets are thin, and yet build up a massive flower. Mrs. Alexander McKinley has blooms of a rich terra-cotta or deep bronze shade. They are full, handsome, and quite up to the standard required for exhibition. The habit of the plant is excellent.—H. S.

Wild Flowers: February.

The ground being under the grip of King Frost,* and covered with snow, not much can be said about plants in flower for this month. We will, however, mention a few of the earliest to come into bloom, and will start with the Winter Aconite, *Eranthis hyemalis*, which will be familiar to most readers. It is not strictly a native plant, although it is included in some British floras. It is extensively grown for naturalising amongst shrubs or in woody situations, and increases rapidly in some places. The flowers are yellow, somewhat resembling a Buttercup, with leaves just below, having the appearance of a green collar. There are other leaves springing from the base, generally called radical leaves. Closely allied to *Eranthis* are the Hellebores; there are two native species. *Helleborus foetidus*, the Bear's Foot (also called Setterwort), is the first to bloom. It is a larger growing plant than *H. viridis*, having pale green flowers sometimes tinged with purple. It grows wild in Hampshire and Sussex. *Helleborus viridis* is a less attractive-looking plant than *foetidus*, having green flowers. This is generally found in pastures, hedge bottoms, and round about ruins. We have several varieties of *Helleborus* under cultivation in our gardens; perhaps none is better known than the Christmas Rose, *Helleborus niger*. All the plants mentioned belong to the same natural order, Ranunculaceae, or the Buttercup family. It is an important order, and is represented in our gardens by many beautiful plants, such as the Delphiniums, Aquilegias, Paeonias, and others.

The Sweet Violet, *Viola odorata*, is one of the earliest plants to come into flower, and is found in great quantities in some districts. Perhaps no other flower is cherished so much as this, unless it is the Primrose. *Viola canina*, the Dog Violet, blooms a little later, and is always scentless; the flowers are thinner, and of a paler blue than *odorata*. A very pretty little plant is the Marsh Violet (*Viola palustris*). As its name implies, it is

* The frost, of course, has given way since the above was written.—Ed.

found in marshy grounds and bogs, and is a very small plant, having smooth green leaves, and pale blue flowers, which are quite scentless. This is not so common as the other two mentioned, but grows abundantly in Scotland and in some parts of England. It blooms much later. The Pansy Violet, or Heartsease, is another important plant in this order. It is a very variable species, and there are many forms of it; some have large blue flowers, others small pale yellow, and some almost white. This flower is often called by country people Pink-i-John, or Pink-of-my-John. In Nicholson's "Dictionary of Gardening" we find the following names are also applied:—Call-me-to-you, Fancy Flanny, Garden Gate, Herb Trinity, Jump-up-and-kiss-me, Live-in-idleness, Love-in-idleness, Three-faces-under-a-hood, and Tickle-my-fancy. A favourite flower of most people is often in bloom in February—the common Snowdrop (*Galanthus nivalis*)—and may be found almost everywhere, either in its wild state or under cultivation. Little need be said of this, as it is too well known.

One of our rare native plants that bloom rather early is the yellow Star-of-Bethlehem (*Gagea lutea*). It is not found in many stations, and never in large numbers. I have only found it in one situation—in a wood in north Yorkshire. It is a pretty little plant, not more than 4in or 6in high, with only one or two leaves; flowers yellow, about four in number, arranged in a kind of umbel on the top of the stem. The bulbs are small, nearly round; two new ones are formed every year, one on each side of the parent bulb. The tuberous Moschatel, *Adoxa Moschatellina*, which blooms later, is a very interesting little plant. It makes its home in shady banks, woods, and hedge bottoms, and is abundant in some parts. Leaves small, of a glaucous hue, rather succulent; the whole plant not being more than 3in or 4in high. The flowers are in little round heads, and when seen in large colonies present a pretty sight. It appears rather strange that a plant of this description should belong to the same family as the common Elder, Guelder Rose, the sweet-smelling Honey-suckle, and the Weigela, which is found in our shrubberies.

We might mention one or two shrubs or trees. *Corylus Avellana*, the common Hazel, or what is often termed Wood Nut, is now in bloom. There are two kinds of flowers, which are called catkins. The male catkins make their appearance in the autumn, but are not fully developed or expanded until the following spring, at about the time when the female catkins appear in February. Most people are familiar with the male catkins, which are from 1½in to 2in long, and droop from the branches. The female catkins are rather inconspicuous, resembling a rather large bud; but if the trees are examined closely in the spring these may be recognised by the two red stigmas protruding from the bud. We need scarcely say that the nuts are extensively used as an article of food, and the wood employed for making hoops, walking sticks, &c. It is said formerly, when yeast was not always readily to be procured, the twisted twigs of the Hazel were steeped in ale during its fermentation until they had imbibed a quantity of yeast, when they were hung up to dry, and in this way preserved this useful commodity for many months. The dry twigs thus saturated were immersed into new wort to promote its fermentation.

A shrub belonging to the same family is the Sweet Gale, or Candleberry Myrtle (*Myrica Gale*). The flowers are produced in the same way as those of the Hazel, but the catkins are shorter, and are found along the ends of the branches. Leaves somewhat resemble a Willow, but are thicker, of a fragrant odour and bitter taste. It is abundant in Scotland and northern England, in bogs and wet moors. The moor people cut it in summer, tie it up in bundles, and bring it down into the small towns and villages to sell. Purchasers make a drink of it, which is called gale beer. This plant was formerly used instead of hops, and is said to be still used for that purpose in some parts of the Highlands of Scotland. The catkins, boiled in water, throw up a scum resembling beeswax, which, collected in sufficient quantities, would make candles. Gathered in the autumn, it dyes wool a yellow colour, and at one time was used both in Sweden and also in Wales. Horses and goats are said to eat the plant, while sheep and cows refuse it.—FIELD BOTANIST.

Ochna multiflora.

The genus *Ochna* contains a number of species whose presence in a plant stove would add interest and beauty—interest from the peculiar fleshy crimson receptacles bearing the black seed-like fruits that develop when the flowers fade, and beauty both in this feature and the handsome pinnate foliage. The species which we figure this week is perhaps the best of the few that are usually cultivated, and is to be had from the larger plant nurseryman at about 3s. 6d. per small plant. The yellow flowers somewhat resemble those of Buttercups, but the pretty petals do not persist for long. This plant received a First Class Certificate when the Royal Horticultural Society used to hold their exhibitions and meetings at South Kensington, on which occasion,

we believe, Messrs. B. S. Williams and Son, of Upper Holloway, obtained the award. The genus is classified under *Ochnaceæ*. Cuttings of half-ripened shoots can be taken in summer, and struck under a bell-glass in a bottom heat. A compost of sandy and fibrous loam, with broken pieces of charcoal and crocks to keep the soil open, is recommended as suitable. The winter temperature in which to grow the plants ranges from 48deg to 60deg, while in summer 60deg to 85deg.

Spider Killing Made Easy.

Any time between now and May we have the chance of destroying a family of 500 or 600 individuals, as yet unborn, by one fatal blow. Such at least is the number of eggs laid by many females of the Diadem spider (*Avaneus diadematus*) though sometimes there are fewer—it depends on the size of the parent and the food supply. During the autumn the egg bag is placed more or less under shelter, as beneath the coping of a wall, or the crossbar of a paling. Now and then it is a bush, upon Heaths, for instance, where the insect is often abundant. "Insect" we call it now, though not long ago spiders and centipedes were classed with the crabs and shrimps. It is a very familiar species about gardens, its ways and doings being worthy of note. Spider life has had much attention given to it by entomologists lately, some valuable observations upon the Diadem species in particular have been published in the "Naturalist's Journal" by F. P. Smith.

Whether seen indoors or about the garden, a spider's web is certainly suggestive of neglect or untidiness, even if as an object it is in itself curious, even beautiful. Gardeners do not usually show mercy to spiders' webs, turning out the tenant to make a new abode should he escape with life. To crush one of the egg bags when it comes in our way is lessening the number of spiders for next summer, no doubt. Still, it must be remembered that spiders may be considered the friends of horticulture, not its enemies. They destroy hosts of winged insects, flies, and moths preponderating, many of these enemies of flowers, fruit or vegetables. The female spiders are, of course, more voracious and destructive than are their smaller male companions. Their webs are apt to escape notice. It is not all fish that comes to a spider's net. I have found that if caterpillars fall into one the spider rarely attacks, but ejects it at once. The contortions of a captured earwig are perplexing to a spider, and it usually allows one to struggle or escape, perhaps afraid of the forceps.

Returning now to the first stage of spider life, in which we may easily find it, I remark that it has been suggested birds hard-up for winter food may sometimes eat their egg bags. Such a thing is possible. I rather query it, seeing that the parent spider enwraps her eggs with silk, making a globular mass, which is fixed by strong cords. Pulled away, it soon breaks up. It is possible some small predatory insects may occasionally perforate spiders' eggs, and eat the contents. When just hatched, the juvenile spiders are of a fine yellow tint, with one black patch, which in time develops into a wavy band. For a while the young brood remains in the nest, nor do they scatter directly they have quitted it and begun to roam. Web-making is out of the question at first, and how young spiders do live is a matter of doubt. Somebody has said, surely in joke, that they grow on the spring dew and plenty of air! A friend, who is no entomologist, but an observer of Nature, declares that it is a case of the survival of the fittest and the vanishing of the feeblest. He believes, from the diminishing of broods he has noticed, that little Diadem spiders prey on each other till they are able to obtain the insects probably more to their taste. I do not wish to think them cannibals, and have a theory of my own. Upon the walls and palings, which are usually the home of young spiders, occur many Acari, or mites, feeders on Fungi and decaying wood. These, I believe, furnish our spiders with food easily obtained. Directly they are born threads are produced, and, moving a little, they form a ball, partly made up of numerous tiny silken lines. If you disturb them the juvenile diadems scatter, and gradually re-assemble. Clustering together is not done in a moment, as Mr. Murray says; five or six thousand legs, however small, require in the packing, not to mention several hundred pairs of poison fangs, which may, even at that early age, exact caution from their owners! It is curious to see how a brood will make an excursion to a short distance. One pioneers the way, having a thread

attached to the home. It reaches a twig or other object, and secures the end. Soon a second travels along, adding a new strand; then a third; more follow, till a bridge is made, over which the rest pass rapidly. But by June generally each has started web-making on its own account, the structures small, of course, and not conspicuously in view, for reasons. During the spring, multitudes of young spiders must fall victims to birds, beetles, or other insects they are unable to combat. At various ages a spider may be observed to suddenly agitate its web, so as to be nearly invisible, which is possibly one means of keeping off enemies. Some four-winged flies, such as the Pompilidæ, sting spiders so as to paralyse, not kill, them. The spider is carried to a suitable

male the peculiar mark so conspicuous on his companion, and which gives the species name. It is really more like the triple cross that was borne as a symbol by the Knights Templars.

One of the singularities of this spider's web is that many of its lines are studded by viscid globules that help to entangle the captives, and there has been much wondering as to how the creature manages to distribute these. Looking carefully, we perceive these globules are of two sizes, and seem to be systematically arranged, the large alternating with one or two smaller ones. Mr. F. P. Smith explains it thus: The thread, when it leaves the spinnerets, is not coated with globules, nor does the spider place them after-



Ochna multiflora, stove shrub, flowers pale yellow. (See page 208.)

spot, and an egg laid beside it, the larva being thus provided with food.

We come now to the time when the Diadem spider is in its prime, and, after a succession of months, it spreads during August and September those extensive nets familiar in gardens and shrubberies, which have to be removed. It is a pity we cannot sometimes spare those not unfrequent near the ground, since these capture numbers of the injurious crane-flies. Good are spiders, too, as natural barometers, for even if it rains an improvement in the weather may be certainly expected should they be repairing their webs. The autumn rains at last make them give up their pursuits, the seemingly insatiable appetite declines, and the female insect prepares her egg-bag. Male spiders mostly die earlier; not a few fall victims to the ferocious females they approach with connubial intentions. We do not see upon the smaller

wards; but it has a viscous surface, and, by the law of tension, dries at intervals, forming the sticky beads. Through exposure to the air, especially near towns, the globules lose their stickiness. The various parts of a wheel or orb web have been described; but the structure is altered by spiders to suit its situation. Three tracts are usual—the spiral, the foundation, and the central. This last is again divided into three—the “hub” in middle, the notched zone, and the free zone. It is in the “hub” the Diadem spider mostly sits, head downwards; but it always has a den a little way off, to which largish insects are often carried.

Dr. Carpenter states the remarkable fact that in some districts of Ireland this spider hibernates, reappearing during the spring, and living till autumn. The life would then extend over two seasons. No instance of this has been observed in Britain.—ENTOMOLOGIST.



Violet, La France.

I have been disappointed with this variety. I understood it was superior to Princess of Wales in that, though equal in other respects, it did not make such extravagant foliage or have unnecessarily long stalks; therefore took up less room, and a larger number of plants could be accommodated in a frame. This latter I find to be true, but I do not find it so free in bloom, at all events in the winter months; and I get decidedly more flowers from Princess of Wales in the same space. This latter variety has also done well with me this winter in pots in a fairly cool house, and it will continue to be the single variety I shall principally rely upon.—W. R. RAILLEM.

The Gardener's Curriculum.

The following, culled from a recent issue of a leading Scottish provincial paper, serves as an example of "how others see us." The article, or, rather, letter, is headed, "Our Young Men: What should They Become? How They May Succeed in Life." Proceeding to advise as to the selection of trades, the writer, after mentioning that of a wheelwright as perhaps the best for a country lad, says, "So it is with gardening. A first-rate gardener, who can use a spade and knows his business, is almost sure to be an independent and happy man." Further on the following paragraph occurs: "The gardener who knows the habits of plants, who knows about bees, who can manage a horse and a cow, who learns the best breeds of poultry and of pigs, will not have much time for football, and none at all to lounge at the corner." The above may not be a glowing description, but it is nevertheless a true account of the wide range of subjects embraced by modern "gardening."—S.

Chrysanthemum, Lily Mountford.

In your issue of February 27 (page 183), Mr. W. J. Godfrey disputes Mr. Wells' assertion that I was the raiser of the above variety, although he admits that it at one time bore the name of Miss Hilda Chamberlain. He also states that it was raised from imported seed. I will now, with your permission, take the first opportunity of clearing up what has been a mystery to a great many growers regarding the origin of this variety. In 1895 I had rather a large number of seedlings in hand, and finding that it was impossible in a private place to give them a proper trial, I got a friend of mine, at that time foreman at Highbury, to grow a dozen varieties from the seedling stage. One came particularly good the first season, and a bloom was shown the same autumn in a stand of twenty-four Japs, and, I believe, the Right Hon. J. Chamberlain bestowed the name of Miss Hilda Chamberlain upon it at my desire himself. The following autumn Mr. Deacon put up a group of the same variety grown as bush plants, which was greatly admired. Mr. Deacon also drew my attention to the fact that the variety had by some means got into the hands of others, and was in great distress about it. While going round the show I noted a bloom of the same variety under the name of Dr. Wray, in a stand of twenty-four. I found the owner, and upon my putting a few questions to him he admitted they had been brought to him by a journeyman whom he had engaged from Highbury. He was good enough to alter the name, and in addition attached my name as the raiser. As Mr. Norman Davis was distributing my novelties at the time, I could not conscientiously offer it to him, as I did not hold the entire stock. However, I wrote to my friend, who had left Highbury, and told him that if he could do anything with the variety he was free to do so. Shortly afterwards I received an application from a nurseryman near Shrewsbury in reference to the variety. I wrote explaining how the variety had got into circulation, and referred them to my friend. In the end the nurseryman bought the remainder of the stock, which I packed and sent myself, so I have no doubt about the variety.

In the meantime I had news of the variety having gone South, notably Penshurst way. I believe I had certainly given up hearing anything more about it, although I still grew a little plant of it every year, as I do every variety of my own raising. Then last year we had the Lily Mountford boom. I ordered plants from Mr. Davis, and when the plants arrived, I fairly shook hands

with them. It was, without doubt, my old friend Miss Hilda Chamberlain. I wrote back to Mr. Davis telling him that I should be able to tell him something about Lily Mountford in the autumn. I grew the two side by side, and will defy anyone to prove that they are not one and the same. In fact Mr. Godfrey admits it. If Mr. Godfrey now disputes that I was the raiser, I can bring further proof. Did Mr. Godfrey's informant on regarding it originate from the same source as the Mutual Friend sport? Does he wish any intelligent reader of the Journal to believe that any person raising a variety like Lily Mountford from seed would hide their light under a bushel and send it out as a sport? In conclusion, I think Mr. Godfrey might have made sure of the origination of the variety before correcting Mr. Wells in such an emphatic manner.—HY. WEEKS, The Gardens, Thrumpton Hall, Derby.

The Chrysanthemum Audit.

Regarding Chrysanthemum Lady Ridgway, I am very pleased to know the origin of this fine variety. I had tried, but could not succeed in finding out who raised it, and it was thought to have come from America. To be safe I had called the surmise in question thus (?). However, I can apologise to Mr. Douglas, and congratulate him for having raised it. Those who have seen this variety shown in Edinburgh by Mr. Lunt, can appreciate it at its full worth. This adds one more to the English raised varieties; and again we can say, "Well done!" Replying to Mr. Godfrey, I was quite under the impression that Mons. E. Calvat raised Mdme. Phillipe Rivoire; for this mistake I must apologise. Point two, as to Sir H. H. Kitchener, I think the second "H." must be a printer's error; and I was also made to say, when speaking of Australia, that it was yellow. [See separate note.—ED.] Now about Pride of Madford, Messrs. Cannell received an Award of Merit for this from the R.H.S., and this is its proper name. Beauty of Teignmouth is not mentioned in the Audit, therefore it is an outsider. (This was well discussed in the *Journal of Horticulture* some two or three years ago.)—W. WELLS.

The Common Wren.

When recently advertising to the Long-tailed Tit and the Golden Crested "Wren" (properly Gold Crest—as it does not belong to the Wren genus), naturally my mind reverted to our familiar common Wren (*Troglodytes parvulus europæus* or *vulgaris*)—and as the few observations which appeared in the Journal anent the former seemed to elicit some little interest, I am induced to offer a few remarks regarding what is also popularly known as the "Jenny Wren," "Dicky Wren," and "Kitty Wren," in many parts of the country. Its principal habitat are bushes and Thorn hedges. It sometimes ascends trees similar in manner to that of the Treecreeper. It utters a sweet, and, for so small a bird, a loud song whilst flitting from bush to bush with very rapid motion of the wings. Its nest, which much resembles in shape that of its namesake, the Golden-Crested Wren, is different in texture from its not using the grey lichen found on the boles of trees. The nest is comparatively large, oval, and domed above, with a small opening in the side, and when built in a tree or shrub, the superstructure is generally composed of green-coloured moss. Sometimes the nest is built against the side of a moss-covered tree, and not unfrequently placed under the thatch of a building. Bits of thatch are then intermixed with moss, evidently with the view of avoiding detection. The breeding nest is lined with soft feathers, and contains from six to eight eggs.

The male is very assiduous in his attentions towards the female during incubation in supplying her with food. A peculiarity of the Common Wren is to build two nests the same season, and one of them is commonly called the cock's, or bachelor Wren's nest, and which, though built of the same material, is unlined. It is a common traditional persuasion that the male is the sole tenant of this nest as a domicile for nocturnal rest, during the season of incubation; also a winter resort for the cock and hen together, and this is a fact, as proved by the writer. It has also been supposed that the object of the cock's nest is to draw attention from the breeding nest, and further, that as two broods are produced in the season, the cock's nest is utilised by the first brood of the young birds for feeding purposes when fit to fly; but this latter supposition I cannot vouch for personally. The cock's nest is generally built in a more exposed situation than the breeding nest, doubtless with the object of drawing attention from the latter habitation. The same peculiarity is observable in the habits of the squirrel. The form of the squirrel's nest, except when built in the hollow of a tree, is precisely the same.

and probably built with the same intention. Curiously, too, the Magpie builds two separate nests, which are also dome-shaped, and generally composed of Thorn twigs, cemented with clay, and lined with fine roots and dried grass.

I am especially interested with the existence of a pair of Magpies' nests, about a quarter of a mile distant from where I am writing these notes. They were built last season a few yards apart in a Beech tree, adjoining each other, and in close proximity to the public highway. The breeding nest appears to be somewhat larger than the cock's nest. Referring, however, to the nesting habits of the Wren, it may be interesting to mention that when on a visit to the Oxford Botanical Gardens I was shown a Wren's nest containing eggs, but, if I recollect aright, in a thicket of the branches of a pillar trained *Habrothamnus elegans* in one of the greenhouses. My conductor informed me that the parents did not exhibit the least fear of the attendants or visitors, and that ingress and egress was made through a small hole in the glass roof of the house, near at hand, and built in a bush outside was the cock's nest (it could hardly be called a "bachelor's" nest), constructed with green moss, and unlined, and in which the bird was observed to roost at night.

The hunting of the Wren is an ancient custom on St. Stephen's Day or Christmas Day, especially in the South of Ireland; a similar custom obtained on other days in other localities. Its origin is said to be unknown. One popular legend, however, which I knew in my boyhood home in South Warwickshire, was to the effect that when the Danes invaded this country they were betrayed when asleep by the Wrens, who, beating with their bills on the drums of the enemy, awoke the Saxon sentinels, and consequently eternal vengeance was vowed against the Wren family; hence the annual hunting custom. There may be other traditions of a similar character connected with the "hunting of the Wren."—WILLIAM GARDINER, Harborne, Staffs.

Beckenham Gardeners' Society.

On Friday evening, Feb. 28, through the kindness of Messrs. J. Peed and Sons (who make a speciality of the *Caladium*), their able grower, Mr. R. Bastin, read a very practical paper on the culture of these beautiful summer occupants of the stove. For many of the present-day varieties we are indebted to the skill of the late Mons. A. Bleu, a French chemist, and the late Mr. John Bausé, who raised some golden varieties, and which, as stated by the essayist, were too delicate to stand the strong sunshine to the extent that the red varieties would do, and to their benefit. A Mr. Letts is now hybridising on a large scale in the Rio (?) centre, and from that source splendid varieties are forthcoming. Mr. Bastin dealt with propagation, and gave some valuable hints, some of which were new to his hearers. A good bottom heat was recommended, and with plenty of moisture, the temperature with sun heat might rise to 95deg or 100deg. Good loam, leaf soil, peat, sphagnum moss, charcoal, and sand to form rather a spongy mass, was stated by Mr. Bastin to give capital results. The plants, when well rooted, to be kept up to their work by the application of liquid manure, made by placing a quantity of sheep manure and soot in a bag and then immersing in a tub of water. For resting the roots a temperature of not lower than 60deg would be found suitable. A good discussion took place, after which a hearty vote of thanks was accorded Mr. Bastin for his excellent paper, the meeting requesting Mr. Webster (librarian) to convey their best thanks to Messrs. John Peed and Sons.

Freesias from Bitterne.

Accompanying the following letter came a delightful boxful of *Freesia* blooms (*F. refracta alba*) the racemes bearing nine and ten beautiful and odorous flowers apiece. The Silver Wattle or *Mimosa* (*Acacia dealbata*) was most effective among the white *Freesias*. Thus:—"I am sending you a few blooms of *Freesia* just to scent your office. I am doing it more to oblige a few of my gardener friends than anything; they have been urging me for a long time to send you a few blooms for inspection. I have had a very nice lot ever since Christmas. I do not think I have ever had better, although I usually have some good ones, and last season I was awarded two Certificates for *Freesias*; but these particular friends of mine (mostly *Journal* readers) have been trying to get some sent to you, as they seem to think a few notes on my treatment would be useful to readers. I make no secret of the treatment I give them, but if it will, in your estimation, after seeing a few of the flowers, be useful to readers, I will try at a future date to give my cultural experience.—A. W. T."

[By all means let others have the benefit of a note on your successful mode of treatment.—Ed.]

Cactus Dahlias.

Either in a cut state or for garden decoration the Cactus type of *Dahlia* is the more useful, and therefore the more popular. The point to bear in mind in making a selection of varieties is to include only those that are free flowering, and which carry their blossoms well above the leaves. In the case of growing for exhibition this does not matter so much; in that case it is quality of flower individually that is of the most importance. Now is a good time to set about the raising of a stock of plants for the coming season's display. If any old roots are in stock of desirable sorts they should be introduced into a slight warmth to induce them to throw up sucker-like shoots. These, taken off with a slight heel, inserted singly in small pots in sandy soil, plunging the pots in a moist bottom heat, will quickly make roots, and grow into stocky plants if shifted on into larger pots, giving them cool treatment after they are established in the fresh soil to induce a stocky growth.

The old roots can be laid upon a stage, Cucumber bed, or placed in boxes in a light position in a temperature of not less than 60deg to induce them to make vigorous growth. The stations or sites where the plants are to grow is an important point in culture. The plants cannot have too much exposure to sun and air; any shade from overhanging trees is fatal to success. Deeply dug and well-manured soil is important. The plants should not have less than 4ft of space; more would be better. Dig or trench the soil 2ft deep, adding half-decayed manure freely. If the stations are prepared one or two months before planting time, in May or the early part of June, so much the better. After the plants are thoroughly prepared by hardening gradually to exposure, and safely protected after planting for a few nights from cold, but little else is required in cultivation. Stake the shoots securely that they do not snap off by strong wind, and do not overcrowd them. From four to six main shoots to each plant is sufficient; more will crowd each other, and not to advantage either.

Cut away all small useless growth as fast as it is made, concentrating the energy of the plant into the selected branches. Abundance of water to the roots is an advantage during dry weather to maintain them in active growth; liquid manure also is a valuable stimulant, and so is mulching of half-decayed manure spread over the ground to arrest moisture during a spell of dry weather.

The following are desirable varieties, embracing new and choice older sorts. Mrs. H. J. Jones (West) is one of the best of new varieties, having received official recognition at the hands of the Committee of the R.H.S. as well as the National *Dahlia* Society. The colour is pleasing—scarlet edged with cream and heavily tipped with white. The habit of growth is erect, the blooms showing well above the foliage. Arab (Keynes), rich velvety maroon, florets long, narrow, and neatly arranged. Aurora (Mortimer), rosy salmon, petals pointed, a good centre.

Aunt Chloe (Stredwick) is an improvement on Uncle Tom, having finer petals of a deep glossy black colour. Clarence Webb (Keynes), bronzy red, with a base of golden yellow; the long reflexing florets curl slightly at the tip.

John Burns (Mortimer) is an advance upon the popular variety Charles Woodbridge; the pointed petals are deep crimson; a good exhibition variety. Lottie Dean (Burrell), pale amber-buff, tinted at the edges; an effective variety in any way. Miss Winchester is a variety much required; the coral-pink colour is effective; in habit it is erect and free flowering.

Mrs. Edward Mawley (Burrell) is perhaps the best yellow Cactus *Dahlia* at present in existence, its constancy of flowering rendering it valuable; the long narrow petals slightly incurve.

Spotless Queen (West) is a distinct advance in white-flowered varieties; under any conditions its purity of colour is preserved; the blooms are of the true Cactus type, while in habit of growth and freedom of flowering little is to be desired that this variety does not possess.

Richard Dean (Stredwick), vermilion scarlet with distinct white tips; a striking novelty. Spitfire (Mortimer), a bright glowing scarlet, with long claw-like petals; the blooms are carried well above the foliage. Florence (Stredwick) is a pretty shade of yellowish orange; the pointed petals are neatly arranged. The above twelve are novelties of the present year.

The under-mentioned are older, yet valuable sorts. Herbert Mortimer, a narrow petalled variety, bright cherry-red with an orange shade at the base.

J. W. Wilkinson, bright crimson, shaded blue. Major Hobbs is a good exhibition variety; a clear rose colour. Venus belongs to the small flowered section; on that account it is valuable for wreath making; the flowers are neatly formed and pure white.

Captain Dreyfus, dark velvety maroon. Mrs. J. J. Crowe, clear yellow, long narrow petals. Starfish, coral red, free flowering. Magnificent, rosy salmon. Matchless, deep velvety maroon. Dr. Nansen, bright scarlet. Beatrice, pale rose; very effective. Ranji, deep maroon.—E. MOLYNEUX.

Societies.

The Scientific Committee (R.H.S.). February 25.

Present: A. D. Michael, Esq., in the chair; Rev. W. Wilks, Messrs. Saunders, Douglas, Bennett-Poë, Odell, Chapman, Hooper, Holmes, Nicholson, Worsdell, Boulger, Bowles, Carruthers (visitor), Drs. Müller, Rendle, Cooke, and Masters.

Diseased Leaves of Odontoglossum.—Mr. Chapman showed leaves showing discoloration and shrivelling of the leaf-tips, attributable to excessive moisture and unfavourable climatic conditions. There was no trace of fungus.

Alleged Hybrid between Pea and Dwarf Bean.—Dr. Masters showed, on behalf of Mr. Smith, a Pea-like seed raised, as was stated, between a dwarf Bean and one of the culinary Peas. The seeds of the Bean-parent were shown, in the form of small, flattened, kidney-shaped seeds, of a shining chestnut colour. The supposed hybrid seed resembled a smooth, round Pea in size, form, and colour. As there was only one seed available, no minute examination was made, but the seed was forwarded to Chiswick to be grown and reported on.

Narcissus poeticus var ornatus.—Mr. Jenkins sent flowers of this variety to show the manner in which the coloured edge of the corona was eaten off by slugs, leaving the yellow cup untouched. Whether the slugs are attracted by the reddish colour of the rim of the corona, or by some other inducement, is a matter for investigation.

Gnaw on Pavia sp.—From the Botanic Garden, Bath, came a globular woody excrescence crowded with buds and contracted shoots. The tree is reported to bear very numerous such growths, from some of which the flowers protrude, so that their appearance is at that period peculiar and attractive. It was suggested that these outgrowths might be the result of the irritation set up by mites or by fungus (*Exoascus*).

Gnaw on Allamanda.—A similar production on the branch of an Allamanda was shown, but in this case there were no buds or shoots. It was suggested that the irritation occasioned by ants was competent to induce such growths.

Diseased Leaves.—Miss Dryden sent various leaves, as follows:—(1) Violet leaves. These were affected with red spider and thrips, for which the application of tobacco water and soft-soap as a wash was recommended. (2) Leaves of bulbous plant from Burmah. These were marked by red streaks, and ultimately by the decay and shrivelling of the tip of the leaf. The appearances were such as are occasioned by thrip, for which fumigation with tobacco or XL All is very effectual. (3) Pelargonium leaves discoloured and shrivelled. No insect or fungus could be found on these leaves, the condition of which was attributed to unfavourable conditions of light, temperature, moisture, or all combined.

Cyclamen Flowers, Synanthus in.—Mr. J. S. Davis sent flowers of Cyclamen more or less united one to another, and with leaves developed on the flower-stalk. Although the appearances are far from uncommon, it is not easy to assign a definite cause for their production.

Fasciated Holly.—Mr. Morley, Southborough, sent a specimen of this malformation, due to excessive growth. It presented no special peculiarities.

Bacteriosis in Carnations.—Dr. Cooke reported as follows on some specimens exhibited at the last meeting:—"The Carnation leaves sent to the last meeting are undoubtedly affected by the disease described as Bacteriosis. The appearance of the leaves is strikingly like that figured in the "U.S.A. Exp. Sta. Purdue," March, 1896, and the minute organisms, whatever they may be, are similar. The name given to the parasite is *Bacterium Dianthi*. The disease is said to enter the plants chiefly through the puncture of aphides, and the suggestions made are that the plants may be kept essentially free from the disease by keeping the foliage dry, and preventing the presence of aphides. Overhead spraying should only be done occasionally on bright days, with water containing a small amount of ammoniacal copper carbonate."

Germination of the Seeds of Crinum and other Amaryllids.—Mr. Worsley contributed a paper accompanied by illustrations. Mr. Worsley contends that the structure usually considered a cotyledon is not truly so named, for it has no counterpart among dicotyledons, and it does not perform the functions of a cotyledon. Moreover, Mr. Worsley thinks that "in comparative anatomy, function is a safer guide than locality."

New Species of Hippeastrum.—Mr. Worsley showed *Hippeastrum Kromeri*. This unrecorded species was introduced by Mr. Kromer, of the Roraima Nurseries, W. Croydon, who both presented Mr. W. with a bulb, and sent flowers of other not showing any divergence. It was gathered in the highlands of Minas Geraes, Brazil, on the banks of the Upper Rio Sao Francisco. It holds an intermediate position between the *Rutilum-Reginæ* group, and the epiphytal group inhabiting the Organ Mountains. It seems nearest akin, geographically and generally, with *H. correiensis* (Bury, Hexand., 9).

Highgate and District Chrysanthemum.

A committee meeting was held last Thursday evening, Mr. T. Bevan presiding. The preliminary business having been disposed of, seventeen new members were elected, and the schedule for the next exhibition was completed, special prizes being accepted from Mr. J. H. Witty, Mr. Cole, and Mr. Love; also prizes from the following:—the Williams' Memorial large silver medal from the Williams' Memorial Trustees, £5 from Wm. Cutbush and Son, and £5 from W. Wells and Co., Limited, for twelve Japanese blooms, novelties of 1901-2, or novelties not in commerce (open to all comers). Several other classes were added to the schedule, and several alterations made in the regulations.—W. E. BOYCE.

Bolton Horticultural and Chrysanthemum.

The adjourned general meeting of this society was held on Tuesday, February 11, 1902. The following is a brief statement of the accounts for the past year:—Total expenditure, £303 3s. 10d.; total receipts, 228 3s. 1d.; showing a net loss of £75 0s. 9d. on the year's working. This loss was chiefly attributed to the bad state of the weather on the show days, and the additional expenditure, over previous years, incurred by the show being held in the Drill Hall. It was unanimously agreed that the retiring president, Thomas Walker, Esq., be asked to accept the presidency for the ensuing year. Mr. Smith was re-elected chairman, Mr. Shone was re-elected treasurer, Mr. H. Makin was elected secretary, and Messrs. Mather and Hay the auditors. Half of the committee were also elected. It was also resolved that the secretary of this society be elected at its annual general meeting.

Chester Paxton

At a meeting held in the Grosvenor Museum on Saturday, Mr. John Weaver, the president for the year, read an interesting and instructive paper on "Stove Plants." Mr. Weaver has for several years been a successful cultivator of these, his collections of them at the local horticultural shows generally taking first place. In the course of his paper, he dealt chiefly with the ornamental-foliaged plants grown in stoves, and made special reference to the many varieties of Crotons and Caladiums. His cultural details of these were of particular interest, especially to practical gardeners, and by the aid of specimens he was able to show to the audience the best varieties to grow. Mr. Weaver also gave the result of his experience with regard to the extermination of insect pests, especially scale and mealy bug, the houses under his care having been free from the latter for several years. Mr. Joseph Ryder, who presided, and others, took part in the discussion which followed, and at the close Mr. Weaver was accorded a hearty vote of thanks.

Birmingham Gardeners' Association.

"Some Diseases of Plant Life" was the subject disquisitioned by Dr. A. B. Reginald Buller, University, Birmingham, on February 24, at the fortnightly meeting of this association. The president, Professor W. Hillhouse, F.L.S., remarked that he experienced additional pleasure in introducing the learned lecturer to the meeting from the fact that the latter was formerly a pupil of his own at the University, and had also since studied for several years vegetable physiology, pathology, and other cognate sciences in Germany. The lecture, which was listened to with rapt attention, was treated upon a most lucid and attractive manner, and illustrated by diagrams and preserved specimens. The subject matter was confined principally to the Potato disease and the "club-root" affecting members of the Brassicas and other Cruciferous plants. In the discussion that followed several questions were asked and satisfactorily answered, while considerable valuable information was elicited from two or three of the speakers regarding antidotes for the suppression of the diseases under notice, such as the Tomato diseases; and the Vine disease (*Phylloxera devastatrix*) was also adverted to. A cultural certificate of merit was worthily awarded to Mr. E. Dedicott, gardener to A. H. Wiggin, Esq., Griffin Hill House, Sellyoak, for an attractive display of such as Hyacinths, Narcissi, and other bulbs grown in bowls of cocoa-nut fibre. The fibre has served the purpose for three seasons. The exhibit included Cyclamens and a small collection of sound, moderate-sized Onions and extra fine Shallots as examples grown in the district. Mr. Dedicott remarked that during this season considerable complaint had existed regarding commercial Onions being found diseased (black) in central portion of the bulb, whereas those grown by himself were perfectly sound.

Trade Catalogues Received.

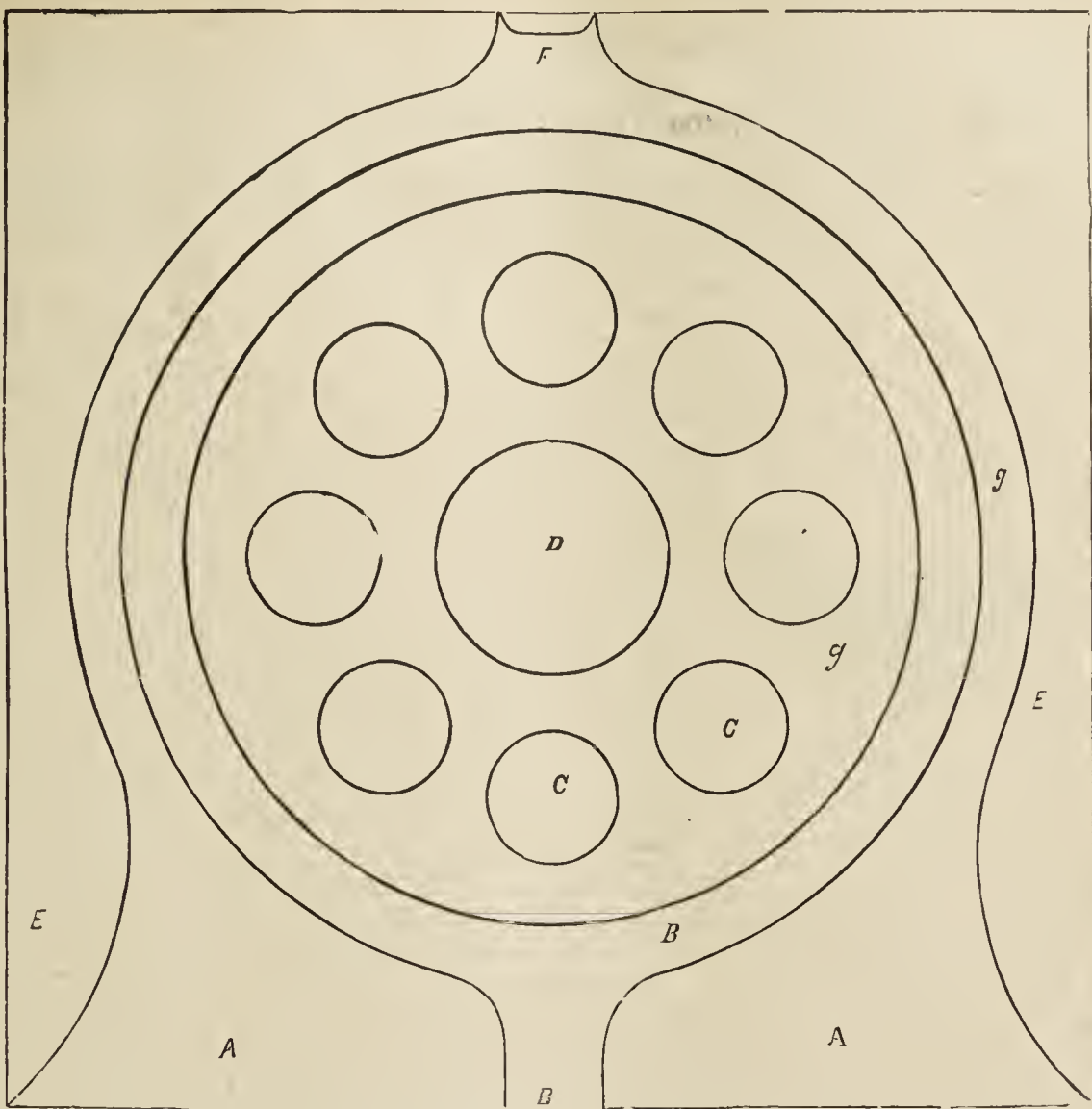
E. P. Dixon & Sons, Hull.—*Farm Seeds*.
Kent and Brydon, Darlington.—*Farm Seeds*.
Little & Ballantine, Carlisle.—*Farm Seeds*.

Plans for a Rose Garden.

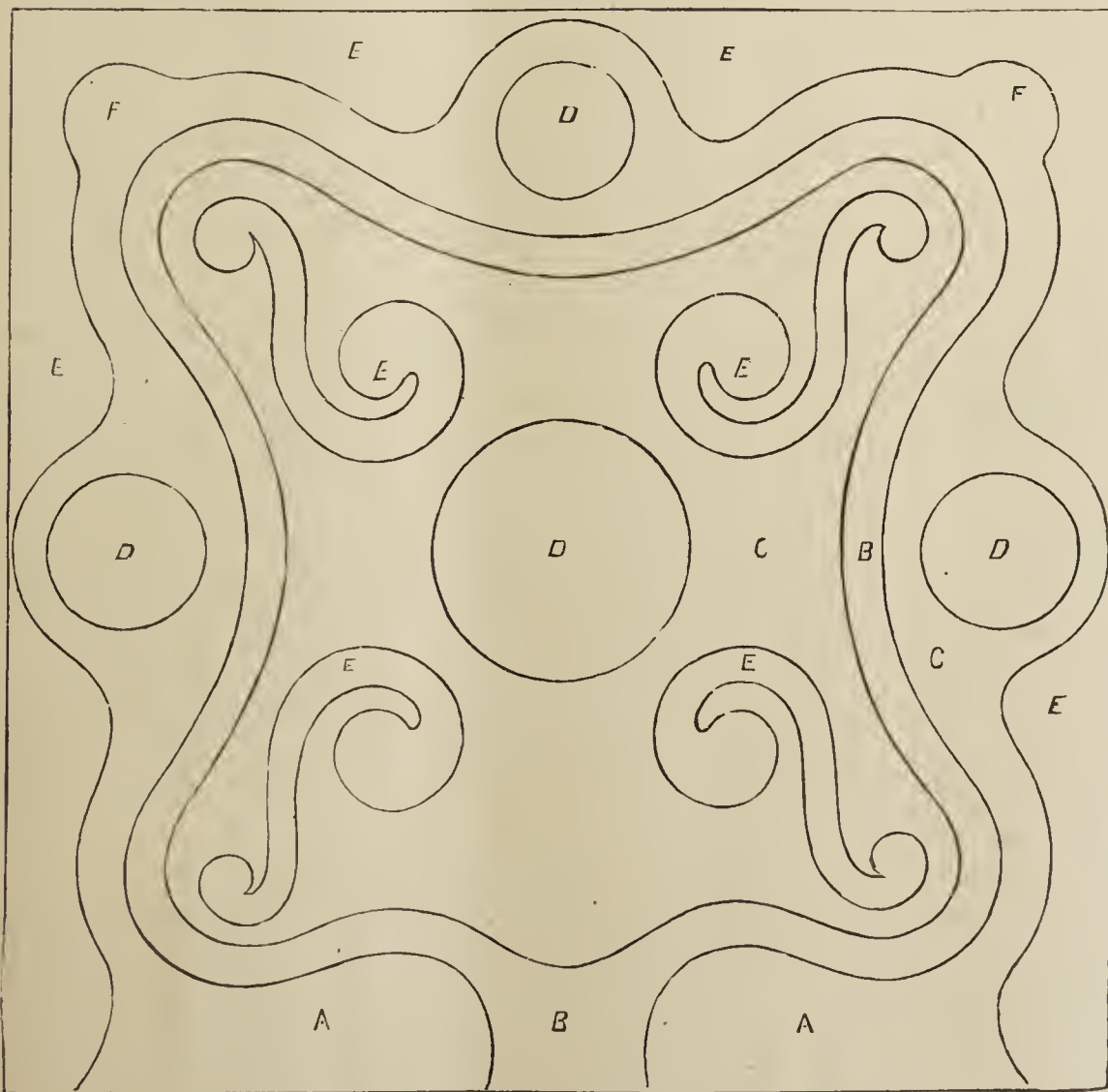
The plans shown on this page are drawn to a scale of 20ft to an inch. That Rose beds should contain nothing but Roses all will agree who are aware what a gross feeder the Rose is. Of the two plans given, the lower one is undoubtedly the more beautiful and, perhaps, also the more convenient for allowing of work among the Roses. By way of variety, a few of the beds might well be devoted to dwarf shrubs. The Rose garden may be surrounded with Rhododendrons or shrubberies, in which, of course, the dwarf subjects would most fittingly be chosen. Relief and shelter would both be attained by this encircling belt. Or part of the enclosing boundary might very properly be formed of a large rootery, the composing stumps and faggots of which might be smothered over with Wichuriana and Rambler Roses. The formal garden would thus merge into the informal, and add to the charm as a whole. The plans adapt themselves to many varied situations, and save for their central features, can be altered to suit the necessities of different conformations. References to each plan are furnished underneath.

Notes on Violets.

The Association of the Bristol and District Gardeners, under the chairmanship of Mr. Binfield, held a record meeting at St. John's Rooms on Thursday evening, February 27, when Mr. J. C. House, of Westbury-on-Trym, delivered his lecture on the Violet, and which proved to be one of the most



A, Turf. B, Path. C, Eight Rose beds. D, Bed of Rhododendrons and Liliums. E, Mixed border of pillar Roses and perennial flowers. F, Seat. G, Turf.



A, Turf. B, Paths. C, Turf. D, Shrub beds. E, Roses. F, F, Recesses for seats.

enjoyable evenings this society has ever held. For this lecture the Bristol amateurs were invited to attend, and received a cordial welcome from their professional brethren, and it need hardly be said the lecture given by Mr. House was worthy of the occasion. That Mr. House has made a special study of the Sweet Violet cannot be denied. The Violet, Mr. House remarked, was deservedly one of the ever popular flowers of the age. Many people are under the impression that there is a deep secret concerning the cultivation of this gem of the garden, which he admitted, but which he said was that of "painstaking" in every detail, and in doing everything needful well. A clear atmosphere, suitable soil (which Mr. House described), and an open position are the essential conditions, and providing all these were complied with, no one need hesitate in growing the Violet. He recommended propagation by runners, put in during autumn in sandy soil, covered with a frame, and partly shaded during the first few days, and, if possible, facing south. Plant the roots out about the third week of April, firming the soil round them, and keeping well watered during the summer months. The best varieties are La France, Princess of Wales, California, and Marie Louise. The best time for gathering the blooms is in the early morning or late in the evening. The lecturer described several of the insect pests and diseases which the Violet is subject to, as also means for prevention and eradication. A good discussion followed, and Mr. House was asked several questions, to which he carefully replied, giving many useful hints for successful cultivation of this floral gem. On the motion of Mr. Machon, President of the Amateurs' Association, seconded by Mr. Groves, Secretary of the Gardeners' Association, a hearty vote of thanks was accorded Mr. House for his most

able and interesting lecture. Prizes for two gentlemen's button-holes and a ladies' spray, were awarded:—1st, Mr. A. Baker (gardener, Mr. Orchard); 2nd, Mr. J. C. Godwin (gardener, Mr. McCulloch); 3rd, Mr. H. Kitley; the prizes being given by Mr. Jones and Mr. Winslade. Certificates of Merit went to Mr. G. Howes (gardener, Mr. White), for *Platyclinis glumacea*; Mr. G. B. James (gardener, Mr. Clarke), for two *Cyclamen*; Mr. C. Bruce Coles (Mr. Lee, gardener), for *Dendrobium nobile*; Lady Cave (gardener, Mr. Poole), for a collection of cut specimens of evergreen shrubs and Conifers; and to Messrs. Garaway and Co. for a new double flowering Peach.—H. K.

The March Moth.

The March Moth (*Anisopteryx æscularia*) is called *Geometra* by some naturalists. It appears about the middle of the month.



MARCH MOTHS.

The females are wingless, as represented in the annexed drawing; but the males have wings, and measure nearly 1½ in across them, when fully opened. The fore wings are pale, glossy, ashy-brown, with a central, broad, slightly dusky band across them, edged outwardly with a white toothed line, and an oblique brown line extending to the tip of the wing from the outer angle of the band next to it. The hind wings are paler than the fore wings, with a dusky central dot, and indistinct

bands. The caterpillar feeds on the leaves of the Horse Chestnut, Plum, Elm, Oak, Hawthorn, and other trees; it is green, with pale lines lengthwise of the body. It is to be found in June. Infested shoots may be cut off; or spraying can be practised.

An Observer's Notes.

Under this heading there are many short interesting notes our readers might send.

MARCH 7-13.

PLANTS DEDICATED TO EACH DAY.

Fri. 7	Frog croaks.	Ever-blooming Rose.
Sat. 8	Gossamer floats.	Petticoat Daffodil.
Sun. 9	Brimstone Butterfly appears.	Three-leaved Chickweed.
Mon. 10	Creeper's Spring-note heard.	Cornish Heath.
Tu. 11	Peach blooms.	Spring Bulbocodium.
Wed. 12	Peacock screams.	Pansy.
Thrs. 13	Plum buds breaking.	Mountain Soldanella.

The honey bees were seen very busy visiting Crocuses, Arabis, &c., on Saturday, March 1. The date when first seen last year was March 12. *Iris stylosa* and *Iris reticulata* are in bloom out of doors here.—C. ORCHARD, Bembridge, Isle of Wight.

On Friday, February 28, a small Tortoiseshell Butterfly. On Saturday, March 1, Brimstone Butterfly (a fine specimen). One of the first heralds of spring. My house faces south. The above were flitting about in front on the dates named.—ALICE BAKER, Petersfield, Hants.

Phenomena of the Season.

Some of our readers, upon seeing the statement above, that the gossamer floats this month, may remark that autumn is the season for its appearing; and it is quite true that in the autumn gossamer is most abundant; but it is to be seen gliding away upon the air in this month also. It is so characteristic of autumn's arrival, that in Germany they poetically call it "the departing summer." It is curious to think that even men of science, in bygone years, have thought the gossamer to be "scorched dew;" or, that "those great white clouds which appear in summer may be of the same substance." Passing by these and other errors, we will state, for the information of such of our readers as are not acquainted with the fact, that the gossamer is voluntarily darted forth by a particular spider (*Aranea obtextrix*), for the purpose of being borne by it speedily aloft, and to a distance. Myriads of these little voyagers in the air have been taken during their passage; and many naturalists have seen them throw themselves upon their backs, "spread their light sails," and pass away. We may also observe, in explanation of the "Peacock's scream" we have mentioned, that this does not refer to its ordinary cry, but, as Mr. Jenyns observes, to a peculiar note uttered only by the male bird, at this time of pairing, and which note, or scream, is very characteristic of the first warm weather occurring in early spring.

THE BEE-KEEPER.

Rearing Queens.

Unfortunately for some bee-keepers their knowledge regarding the importance of changing or renewing queens is distressingly deficient, and the result is that the quantity of surplus gathered by their stocks is variable and uncertain, and comparison with that where an intelligent system of renewal has been instituted is unfavourable. The logical deduction is that either the age, fertility, or vigour of the queen is responsible for this fluctuation. It is well known that the tendency of a stock in possession of a young queen is to build worker comb, which will populate the hive with thousands of honey gathering workers; but, on the contrary, with an old queen, drone comb is built in every conceivable nook. Now this means not only an increased consumption of honey and an incentive to swarming, but also that the supply of workers will become more and more inadequate, and frequently such queens, through disease or injury, become drone breeders entirely, and instead of being a source of income they are a cause of constant loss and disappointment. Again, characteristics, disposition, temperament, and constitution differ in bees just as they do in animals, but apiarists are apparently stolidly indifferent to this fact. That there are similar distinctive peculiarities in bees does not appear to strike them, and in eliminating the bad traits and producing the good qualities of an improved strain there are incalculable possibilities of future success.

Anyone who has had experience will readily concede that some colonies are more energetic and vigorous, more densely populated, at the same time being less inclined to swarm, and producing more and better quality of comb honey. These variations depend upon the strain and constitution of the queen, influenced by the drone with which she mates. If queens are raised by swarming only, all the true principles of breeding are violated. If this be doubted, unerring Nature's convincing results will soon be visible in occasional deformities and impaired constitutions. Moreover, instead of subduing and stifling the swarming instinct, it will be developed by this practice to such an extent that the stock may eventually become worthless for the purpose of honey gathering. Nothing can be more appropriate here than the words of Professor Cheshire, who has repeatedly pointed out that queens should be reared artificially if we wish to diminish the inclination to swarm. It is well for the apathetic to consider that, under the present system of stimulative forcing a young queen will deposit as many as three thousand to four thousand worker eggs per day, which, if manipulated in a rational manner, will provide a practical object lesson on the benefit of the modern system, by increasing the annual yield of honey to the extent of 50lb or more per hive. It will be recognised, therefore, that success in bee-keeping is in direct ratio to the energy and fertility of the queen, and also that the motives of economy which do not permit the expenditure of a few shillings for a queen (which might, as an experiment, cost pounds to produce) to supersede one which is old and worn-out, are deplorably short-sighted.

However deplorable this may be from a progressive standpoint it is still more lamentable from an economical point of view, as the almost inappreciable expense is amply compensated by the increased harvest, greater results being secured from half the number of hives, and, as previously stated, until these facts are more generally recognised and the absolute necessity of an annual weeding out of decrepit queens is insisted upon, the maximum of honey will never be obtained by the minimum of labour colonies and expense.

It is almost impossible, while tastes differ so widely, to award the palm for supremacy to any one particular kind of bee, but the most eminent authorities assure us that there is no satisfaction in working any pure strain, and that a judicious cross is insurpassable. At the same time the only true measure by which a just estimate may be formed must be based on a consideration of what has actually been accomplished. In developing an improved strain any question of expense should be subordinated to the supreme object of securing the best bee for utility.—E. E., Sandbach.

Great Britain's Forests.

Mr. R. W. Hanbury, M.P., President of the Board of Agriculture, has appointed a Departmental Committee to inquire into and report as to the present position and future prospects of forestry and the planting and management of woodlands in Great Britain, and to consider whether any measures might with advantage be taken, either by the provision of further educational facilities or otherwise, for their promotion and encouragement. Mr. Reginald H. Hooker, of the Board of Agriculture, is the secretary to the Committee.



Hardy Fruit Garden.

PROTECTING APRICOT TREES.—Apricot trees are among the earliest to flower, especially when situated on warm, sunny walls. It is all the better for the trees if a cold period prevails previous to and at this time, and keeps the trees back; but when the buds commence to swell rapidly, and the flowers to open, protection is necessary to avoid the expanded flowers having their essential organs damaged by frost or otherwise. The best arrangement for protection consists of a coping board fixed along the top of the wall, upon which protecting material can be hung in such a manner that it can be drawn on one side when it is not necessary to keep it in position. The use of any heavy, light-excluding material will do harm if not removed when a favourable time permits of it. It may be used on sunny, warm days before the flowers open to prevent them coming along too fast; but on other occasions draw on one side. Permanent protection in the shape of several thicknesses of netting hung in front of, but not touching, the trees is excellent, as it does not exclude the light and a constant circulation of air. This may remain until the necessity no longer exists of affording any protection whatever. The great point is to have the fixings and materials so far in readiness that they may be used at short notice when required.

FILBERTS AND COB NUTS.—The leading shoots of young plants must be shortened to cause side growths to push, and any crowded growths thinned out entirely, leaving the trees or bushes well balanced. Older and well established bushes may be pruned when the female buds are on the point of opening. In pruning, as many as possible of these should be left, though there should be no hesitation whatever in removing crowded branches for the ultimate benefit of the trees. A fair number of branches must be left containing catkins, the pollen on these being essential for the fertilisation of the pistillate flowers. The latter are easily known by the tufts of crimson styles protruding from the buds. The catkins are slender and drooping, and when fully developed have a pale yellow appearance, the ripe pollen giving it this character. Should there be a deficiency in the number of the catkins on any of the trees, cut some from others and hang about. Shake the catkins when dry in order to distribute the pollen. Overgrown bushes or trees may be shortened freely back, and young wood encouraged. There are usually suitable growths near the base which will take the place of old, worn-out branches, and improve the bushes in shape and size. After the catkins have shed all the pollen, any of the unnecessary parts may be cut out, and the trees relieved of much unnecessary wood.

PLANTING GOOSEBERRIES AND CURRANTS.—At the present time the planting of quite small trees and bushes, either for walls, fences, or in the open, may be carried out; but the sooner the work can be done the better, providing the soil is in a suitable condition. Spring planting is not preferable to autumn planting, but it is necessary sometimes, and with care in planting healthy, well-rooted trees and bushes, there is no reason why they should not do well. See that the ground is well prepared, digging deeply and manuring freely. As a good start to making growth, spread among the roots when planting some fresh material, laying them all out straight. Work the soil about them firmly, and afford a light mulching of long manure.

BLACKBERRIES AND LOGANBERRIES.—There is still time to plant these so that a fair start may be made during the coming season; but no fruit should be allowed to be borne. The ground should be dug or trenched deeply, adding abundance of manure, as it is practically impossible to make the ground too rich for these. Secure moderately strong suckers having a nice lot of fibrous roots; in fact, roots of this character are really of more importance for the future success of the plants than strong stems at this stage, because it will be necessary to cut them down closely for securing future strong growths. These will issue from the base of the present stems, and if the root action is strong, fine growths will ensue in the course of the season. The roots may be planted 8ft apart in rows 5ft asunder, and the growths can be trained on wires attached to posts at each end of rows. After planting is completed, mulch the ground with manure of a light, open character. Later on in the season it may be found necessary to water so as to encourage growth; but for some time this will be unnecessary, especially in a strong holding soil. Established plants of these may, if not previously done, receive a mulching of rich manure.

RASPBERRIES.—Cut newly-planted Raspberries down closely to the ground, whether they were planted in the autumn or have only recently been inserted. Established plantations of Raspberries which have been pruned and tied up, but the tips left to be shortened in spring, can now be pruned back to ripe wood. A liberal mulching of rich manure is appreciated by Raspberries; therefore, it is desirable to replenish the autumn mulching by another dressing applied now.

STRAWBERRIES.—The soil about the roots of young Strawberries should be made firm where it has been loosened by the frosts. Where it is intended to form beds of Strawberries this spring the ground must forthwith be prepared, digging the soil to a fair depth, moving the subsoil, and adding decomposed manure if the ground should be poor in quality. Make the ground before planting.—LYMINGTON, HANTS.

Fruit Forcing.

VINES: EARLY FORCED IN POTS.—The earliest forced are taking the last swelling in the berries, which they do best with a fair amount of lateral extension, especially above the fruit; but Vines in pots do not extend much when fully cropped, therefore little pinching will be required. To promote a good swelling of the Grapes, supply liquid manure at every watering, not making the soil sodden, for that commonly results in shanking, but allowing it to become fairly dry, then afford a thorough supply. Ventilate at 70deg, increasing it with the sun heat to 85deg, and close sufficiently early to maintain it, and if with an advance of 90deg all the better. The beds, paths, and walls may be sprinkled two or three times a day with water, so as to maintain a genial condition of the atmosphere, continuing this until colouring commences, when a drier condition of the atmosphere will be more favourable to good colour and finish.

EARLY FORCED PLANTED-OUT VINES.—When the berries are set attention must be given to thinning directly it can be seen which have been properly fertilised by their taking the lead in swelling. Remove badly set and ill-shapen clusters, striving to secure a crop of compact, good shaped, well furnished bunches, properly swelled berries, and perfect in colour and finish. Allow laterals to extend beyond the bunches where there is room for the exposure of the foliage to light; but do not encourage growth to the prejudice of the principal leaves. Attend frequently to stopping, for the alternate checks to root action, consequent on removing large amounts of growths, nullify the acceleration of their formation, and are attended with bad consequences to both foliage and fruit. Maintain a night temperature of 60deg to 65deg, and 70deg to 75deg by day, commencing to ventilate from 70deg, and keeping through the day at 80deg to 85deg from sun heat, closing between those temperatures, damping at the time. Afford thorough supplies of liquid manure to inside borders at intervals as necessary to keep the soil in a moist, healthy condition, supplying the liquid after moistening the soil with water, or top-dress with fertiliser and wash in. In the case of borders of open material or limited areas, mulch with a couple of inches thickness of sweetened short stable manure. If this is quite fresh there is danger of the ammonia evolved prejudicially affecting the foliage. Avoid syringing the Grapes, as, however clear and soft the water may be there is almost certain to be a sediment, which may not appear until the fruit ripens, and then it is a great blemish on an otherwise well finished crop.

VINES STARTED AT THE NEW YEAR.—Commence disbudding as soon as the best shows can be determined; but it is wise to let this be plain, as any scrutiny of the points of the shoots by forcible means more or less damages the growth. It is also desirable to let the shoots grow up to the light, always attending to tying in time to prevent the points touching the glass, and in bringing down be careful not to snap the growth at the base, or cause it to break at the point by too abrupt depression. Allow no more growth to remain than can have full exposure to light, not only for the principal leaves, but a fair amount of lateral growth. Stopping is best attended to whilst the growths are forming, the leaf at the stopping joint being about the size of a halfpenny. Allow at least two, and, if possible, three or four joints beyond the bunch, stopping all laterals below the fruit at the first joint, or they may be rubbed off, except from the two lowest leaves. The laterals from these should be pinched at the first leaf, and any subsequent growths from them pinched at every leaf; but those on a level with or above the fruit may be allowed to extend as space permits, always stopping early enough for securing subsequent growth, and with space for its development. When in flower, afford a night temperature of 65deg to 70deg, with 80deg to 85deg from sun heat. Vines set the fruit most satisfactorily when the atmospheric moisture is not excessive during the flowering period; but an over-dry atmosphere must be avoided. Artificial impregnation is desirable for the shy-setting varieties. In the case of Muscats fertilisation is a necessity, keeping the points of the bunches well up to the light;

indeed, cross-fertilisation is desirable in all cases, being attended with the best results, both as regards setting the fruit, its swelling, and perfecting.

MIDSEASON HOUSES.—The Vines to afford ripe fruit in August and September of the Black Hamburgh, Foster's Seedling and similar type must be started at once, and with the temperature kept at 50deg by night and 55deg in the daytime from fire heat, with 65deg from sun heat, they will break gradually and strongly. When movement takes place in the buds the temperature may be gradually raised so as to bring the Vines into leaf, with a temperature of 60deg at night, 65deg by day in cold weather, 70deg to 75deg with gleams of sun, and 80deg to 85deg on bright days. With starting in this way, the Vines will need little artificial heat during the months of June, July, and August, and, having the benefit of the summer for growing and perfecting the fruits, better results will be attained than from starting late, and having to fire hard in late summer to perfect the crop.

LATE VINES.—The thick-skinned varieties require a long time to grow and ripen fully for satisfactory keeping. Those started at the beginning of March have a better chance to perfect the crop than others not started before April, the latter losing fully a month of the best growing weather. The inside border must be brought into a thoroughly moist condition. Sprinkle the rods two or three times a day, maintaining a night temperature of 50deg to 55deg, and 65deg in the daytime, by which means the Vines will start freely, and, having the whole of the summer to grow and mature their crops in, they will prove most satisfactory in produce and cost of production. Where hard Vines have yet to be pruned and the house put in order, this should be attended to without delay. If the Vines are pruned and the temperature kept low, there may not be any bleeding when started, provided the cuts are carefully dressed with styptic or patent knotting, or French polish immediately the wounds are dry after pruning. The dressing of the Vines is a needful precaution against insect and fungal pests, which to be of use necessitates the removal of the loose bark without very close peeling and scraping into the quick. Also remove the loose surface soil from the border, and supply fresh turfy loam, using about 4oz per square yard of some approved fertiliser, which, distributed on the surface and lightly scratched in, will benefit the Vines immensely later on. Protect the stems of Vines in outside border, and supply a top-dressing of sound enriching material, which will be all the protection necessary.

LATE HOUSES OF HAMBURGHES.—Where the structures are kept cool and dry, and the border sufficiently moist to preserve the roots in a sound condition, ventilating fully at and above 50deg, the Vines will start naturally when the mean temperature of the external air reaches 50deg, or a little before, which usually takes place during April. The only assistance such Vines require is to maintain a temperature of 50deg to 55deg at night and on dull days, sun heat doing the rest of the work, for the crop sets by the early part of June, is swelled with the solar warmth, and a little fire heat in September or after the Grapes commence colouring, perfects the crops. Of course, sun heat must be husbanded during the summer months by early closing and the Vines well nourished, then Grape growing is one of the easiest and most satisfactory processes in horticulture. —ST. ALBANS.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1902.										
February and March.										
Sunday ...23	S.S.E.	deg. 45.4	deg. 44.7	deg. 50.6	deg. 39.0	Ins. 0.03	deg. 34.4	deg. 37.3	deg. 41.3	deg. 35.3
Monday ...24	E.S.E.	45.9	44.6	47.1	45.0	0.29	37.9	37.8	41.3	41.3
Tuesday ...25	E.S.E.	44.4	43.9	47.7	44.3	0.05	39.7	38.9	41.3	41.0
Wed'sday 26	E.S.E.	39.9	38.1	47.1	37.8	0.15	39.8	40.0	41.3	33.6
Thursday 27	S.S.W.	46.7	44.4	50.9	40.0	0.02	40.6	40.3	41.5	35.3
Friday ...28	S.S.W.	47.9	45.9	53.6	43.6	0.03	41.9	41.0	41.8	35.3
Saturday 1	N.E.	41.4	40.7	52.4	35.3	—	41.7	41.8	42.0	28.5
MEANS ...		44.5	43.2	49.9	40.7	Total. 0.57	39.4	39.6	41.5	35.8

A week of foggy mornings and dull days, with frequent showers.



* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

STRAWBERRIES FOR HOT WEATHER (A. E. R.).—A full answer next week.

CHRYSANTHEMUMS, TIMING (W. B. W.).—Postal order for 3s. received for answer to above query. We will hand it over to Mr. Brian Wynne, secretary of the Royal Gardeners' Orphan Fund.

FARM PAGE QUERY: MANUFACTURERS OF FEEDING STUFFS (Henry S.).—It is outside the scope of this column to recommend individual firms. Almost every corn merchant, however, supplies feeding cakes, and if you apply to a respectable firm of this description you should be well served. When buying oil cakes see that there is "95 per cent. pure" stamped upon them.

CARDINAL NECTARINE FOR EARLY MARKETING (F. S.).—"Will you kindly say whether Cardinal Nectarine is likely to be more profitable for early work for London markets than the larger Peaches and Nectarines that come in a little later? What is the best time to get the fruits ripe to make the best prices and not clash with the imported ones?"

[Though the fruits are only of medium size the richly coloured skin tells in their favour, and having an exquisitely flavoured flesh, combined with ripening ten days before the earliest large Nectarine, Early Rivers, Cardinal is likely to be more profitable for early work for London market than the large Peaches and Nectarines that come in a little later. It is well, however, to have a succession, and Early Rivers, being of the largest size (fruit 9½ in circumference), ripening a fortnight before Lord Napier, weighing ½ lb in weight, of very fine luscious flavour, and of a brilliant colour, the tree a free cropper, may be equally remunerative. Similarly, Waterloo Peach, a medium-sized fruit (reaching 8oz in weight), ripening three weeks before Hale's Early, also medium sized, would be more likely profitable from mere earliness than the large and bright-coloured Condor. At the end of April and early in May is perhaps the best time to have the fruit ripe, continuing up to the early part, or even end, of June.]

VINES SHOWING FRUIT INDIFFERENTLY (A Young Gardener).—The bunches of embryo fruit were strong and long in the footstalk, the shoulders for the most part blind or defective in the flower-knobs, and the bunches inclined to curl or become tendrils. We have found such effects caused by Vines being grown in rich, deep, cold, outside borders, which have a tendency to produce gross long-jointed wood, usually imperfectly ripened. Yours, however, cannot suffer from this, the roots being in an inside border, and completely under command. You have placed a foot of manure on the inside border, and you poured cold water copiously on the manure to wash its nutritive matters into the soil. This cold-drenching a Vine border when the Vines are but little advanced in growth is bad. A check is given every time the cold water is applied, and the rootlets form indifferently in a cold wet border. You commenced to force early—at Christmas—and the Vines were advanced for flowering by the early part of February. You brought them on slowly at first, and since they broke have kept them at 60deg by night, and 70deg by day from fire heat. This, combined with the drenchings of cold water, is sufficient to account for the bad condition of any Vine subjected to such treatment, especially Muscats, and these you say are the worst. Had the water used been a few degrees warmer than the mean temperature of the house, so as to bring the border into a nice moist condition, commencing to force with a temperature of 45deg by night for the first fortnight, increasing it to 50deg at the end of that period, in another fortnight to 55deg, and in another to 60deg; then we think the bunches would not have been in the condition of those sent. Throwing the house open in summer is only wise under certain circumstances, and should never be done until the wood is hard and brown, or well ripened. Keep the border moist for a short time before commencing to force, and well watered when growth commences; decrease the amount of water after the fruit changes colour, and leave it off altogether after the fruit is ripe. Bring the Vines on gradually, and do not exceed 60deg by night until the leaves attain their full size. Water always with tepid water, and do not expose the Vines or throw open the house until the wood is thoroughly ripened.

YOUNG GARDENER'S EDUCATION (Apprentice).—If you will kindly send your name and address we will reply through these columns. The name and address we never publish, if asked not to.

REINECKEA CARNEA (J. A. W., Somerset).—The genus is monotypic, and is under the N.O. Liliaceæ. Mr. George Nicholson describes it in his invaluable "Dictionary of Gardening." The name was given to the plant in honour of a German botanist, Reineck.

PRUNING HYBRID PERPETUAL ROSES (S. W.).—In pruning these take out the old and weak shoots, and those that cross each other, so as to form a well-shapen head. They require pruning to two eyes if the heads are as large as desired, or if increase of head be desired, to four eyes. Prune them at once.

REPLANTING STANDARD ROSES (K. C.).—You may now take up the Roses that have been planted five years, and replant them after having renewed the soil, and applied a liberal dressing of manure. Defer pruning until the buds begin to swell freely, or a month or six weeks after planting, and prune rather close. November is the best time for pruning, but it may be done in spring, especially with the more tender sorts. It will cause them to bloom later.

VINE LEAVES TURNED BROWN (One in a Fix).—We are at a loss to account for the scorching of the leaves and fruit so early as February 14. The temperature from fire heat must have been extremely high, and the air of the house excessively dry, and some other cause must have existed as well, to account for the complete destruction of the foliage and fruit. We think your border good, though we should have liked it better had it not been so deep, and without leaves over the drainage. Your pit is 4ft deep with 1ft of drainage at the bottom, and a good thickness of leaves above it. Leaves are apt to become a soap-like mass, and thus prevent water escaping freely by the drainage. In place of the leaves we would recommend you to place 6in more rubble on that already at the bottom of the pit, then a layer of turves, grass side downwards, and then to fill in with turfy loam from a sandy soil chopped with a spade, adding to this equal quantities of boiled $\frac{1}{2}$ in bones and charcoal, so as to form one-sixth of the whole. Instead of mixing any manure with the compost, rely on top-dressings of rich compost for nourishing the Vines. Vegetable matter is apt to form a close heavy mass when thoroughly decomposed, and the Vine will not thrive in a soil containing an excess of close, heavy vegetable or animal matter partially or wholly decomposed. As the roots are healthy, to what do you attribute the weakness of the wood? If you are satisfied it is due to the misfortune, and not to the border, by all means leave the latter alone. We see nothing wrong in it except its depth, the leaves over the drainage, and the manure mixed with the soil. Turf, manure, and bone dust being its ingredients, we do not see how it could be improved except as above. All the sorts are good for general purposes. Your best course would be to train a shoot from the bottom of the rod and cut back the old rod to that shoot after it had pushed another shoot a foot or so long. If cut out now the danger of bleeding is great, and the Vines will be weakened. The young cane will, if the roots are healthy, reach the top of the house this season, and if well ripened a crop of fruit may be had in the following year. We do not think any good would result from retaining the old rod and weak spurs upon it.

NAMES OF PLANTS.—*Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number.* (A. L. F.).—The Mimosa is botanically *Acacia dealbata*. The red flower is *Cestrum elegans*. (B.).—*Begonia ulmifolia*, a species, usually only to be found in botanic gardens. (J. R. Preston).—1. *Sternbergia Fischeriana*; 2. *Helleborus caucasicus*; 2. *Galanthus Elwesianus*. (J. T.).—1. *Cattleya Loddigesii*; 2. *Vanda Amesiana*.

EDITORIAL NOTICE.—Our readers can greatly assist in adding interest to the pages of "The Journal" by their kindly contribution of timely notes and notices, and at the present period of the year there may be photographic examples of well-grown fruit, &c., growing or otherwise, that would be worthy of reproduction. The Editor would be pleased to have such subjects for consideration and probable use. He does not guarantee to pay for prints unless by special agreement.

Trade Note.

Messrs. Cassell and Co., Limited, London, have published Part 1 (price 6d. net) of a new and enlarged edition of "Familiar Wild Flowers," by F. E. Hulme. Those who would care to begin the study of the British Flora, could not have a more favourable opportunity than is presented at the introduction of this new Spring, and by taking "Cassell's Wild Flowers" as each part appears, the interest will gradually be broadened and pleasantly led on. Ten coloured plates, with descriptive text, is given in Part 1. These can be had at nearly all booksellers.



Rhodesia and its Blue Book.

Especially that part of it which bears upon agriculture is what we wish to consider. We have enjoyed reading the report (1898-1900) of the Administration of Rhodesia, and we have added much to our geographical knowledge by the study of the three clear, well-printed maps. They convey some idea of the magnitude of the country, and we must confess we had no previous knowledge of the many rivers and their tributaries. The maps give the impression of a well watered land, and without water—well! There appears to us to be one great drawback; there is no seacoast, no ports for the shipment of goods, but all must be conveyed many weary miles to the coast. Perhaps we make more of this omission on the part of Nature than we need; but it was so impressed upon us in youth that a seaboard was such a fine thing to possess, that we still feel a country is placed at a great disadvantage that can boast of no London, Liverpool, Hull, or Newcastle. Rhodesia! Never did the Psalmist ever conceive that one man during his lifetime should live to see so great a country called after his name! Practically we suppose he has discovered it; at any rate, it is not his fault if its riches, its beauties, and general desirableness are not well known through the length and breadth of the habitable globe.

Has the reader any desire to journey to this new Canaan? Here in this volume he is told the day and the hour he must leave Waterloo for Southampton, the fare by mail or intermediate steamer from Southampton to Cape Town; what luggage he may take; how he is to proceed from Cape Town, Port Elizabeth, or East London to Bulawayo, and what the fare will be. Even the charges in the refreshment rooms are stated, and the rates for excess luggage. Or supposing the journey is to Beira or Salisbury, the information is equally full; the names of the various shipping companies are given, and even the price of collecting rail parcels at Bulawayo. What might happen if we ever got involved in any difficulties with the Portuguese would be hard to say. The route via Beira would soon be closed. We do not think for a moment that any difficulties will arise; but there is a little awkwardness in having another nation's territory between us and the sea.

Now for the terms upon which settlers may obtain land in Southern Rhodesia. Persons desirous of obtaining grants of land apply, in the first instance, to the Surveyor-General Salisbury, who, if he finds the applicant has capital enough to work the land, will forward the application to His Honour the Administrator. The tenant must pledge himself to occupy the land beneficially for a term of five years. He is free to cultivate or graze. The rent will vary from £3 to £15 per annum for a 1,500 morgen farm (3,000 acres). At the expiration of the five years the land may be bought outright at the price of 9d. (ninepence) per acre. The cost of surveying the farms seems high in proportion to the rent—£30 for 1,500 morgen, and £40 for 3,000 morgen, the payment is allowed to extend over twelve months. The whole of Southern Rhodesia is well watered, and is particularly suited for stock-raising. Cattle do well; sheep and goats thrive in many parts; horses are subject to horse sickness (of which we will say more hereafter); pigs—well, this land must be a Pig Paradise!—food enough and to spare, and as yet no porcine disease; poultry and eggs command a good market, but fowl cholera exists, we may add it also exists in other countries as well as Rhodesia, but we think it is a complaint that yields to treatment.

Now, as to produce. A rather tiresome expression keeps recurring—irrigation. Certain things do well under irrigation. Does this mean that irrigation already exists, or that it will have to be seen to first before these lands are of much value to the farmer? If the individual farmer has to artificially irrigate his land before attempting cultivation, we fear he will want such a capital the interest of which

would support him at home in comfort. We will quote from the report: "Mealies, Kaffir Corn, and other native cereals grow in the rainy season without irrigation, as do Sweet Potatoes, Pumpkins, &c." Mealies realise about 23s. per bag, Potatoes 3d. to 8d. per lb., other cereals have been tried experimentally, and give fair prospects of success. Wheat grows well under irrigation or on damp ground; Oat forage ditto. Grass very good; almost every farm has the advantage of possessing various kinds of grass. The grass dries up on the high lands towards the middle of May, is burnt end of June and during July, and sprouts up again about middle of August. There is always plenty of grass in the valleys. The first rains fall during October, and are usually succeeded by a month or six weeks of fine weather. Rains and dry weather alternate till the end of March or April. Only on low land is there ever any frost—say 2deg. Snow never falls.

It is of no use to grow crops and raise cattle unless there is a market within easy access, and the market seems to depend much on the mineral wealth of the country. Mineral wealth acts as a magnet, and then comes the genus "homo," and he must be fed. He works hard and does not grudge money for good food supplies. The farmer and the miner must go hand in hand. With farming, proper market gardening must go; and really the farming proper is of such a nature as at first to puzzle any ordinary Englishman. Forage plants appear to answer; in fact, where do they not? And we read with satisfaction of our old friend Lucerne, which does well; we fancy in a favourable season it will surprise a good many folks. It likes heat, and it is such a "cut and come again" crop. For our part we should back it against Oat forage. The Oat must have a cool, moist atmosphere. There are two native forage plants mentioned as being excellent growers—Teo sinte, which requires a deep rich loam, such as is found in the valleys, and makes capital hay or ensilage; the other is Manna, a small grained Millet. Now, we think it a better policy to improve these native plants than to try experiments with other crops not indigenous to the soil. Indian Corn has been grown with great success, and better qualities have been introduced from America. "Mealie" is the African name for the Corn cobs.

We suppose the term "wet land" is relative. We read of Wheat doing well on wet land and on irrigated land. Now, our experience of Wheat is that dry land suits it best—that is, dry deep land. Potatoes, too, flourish, and Messrs. Sutton are represented by Early Rose. Then we come to two classes of plants which we are only acquainted with in their manufactured form—viz., Tobacco and Rubber. The Tobacco seed has to be imported; the Rubber vine is there in plenty. We read of fruit of almost every kind. If, as we read, the wild Grape is well flavoured and good there appears to be room and opportunity, by means of judicious selection and cultivation, to improve it much. We complain of insect pests here at home; but we shall not get rid of them by emigrating to Rhodesia. They are of a different kind, but equally bad to combat.

As to stock. At present there is not enough of it. The horned cattle have been decimated by rinderpest; but most happily a cure, or, rather, a preventive, has been found, and any future outbreaks will be got under without much loss or expense. There is an opening for good stock. It seems to us there is now a golden opportunity for the importation of some established breeds, such as Short-horns, Devons, or Herefords. With all the good grass they must do well, and they would prepare the way for sheep. Sheep do best on a close cropped pasture, where there is no chance of surfeit. The native goats and sheep do well, and might form the nucleus of grand flocks. There being tracks of country suitable for winter and summer grazing, the maintaining of large flocks and herds need entail no anxiety on the breeder.

Now, as to horses. Can this country be made available for horse-breeding on a large scale? Say, for Army remounts. The country is right enough; but, alas! there is a deadly sickness, which at present defies all means of remedy. It appears to be a malarial disease, and can in a measure be prevented by attention to certain rules. Experiments are being made with the view of discovering some means by which horses may be rendered immune, and we have no doubt that science will accomplish much. "Glanders" has been practically brought under control by the application of the Mallein test. There is a great ado;

here when a case of Pleuro is discovered; but we absolutely know nothing of its virulence. There is only one cure, and that is stamping out. Stamp out the first, and then inoculation to prevent attacks in the future.

Dairy farming appears to offer a fine field for an enterprising man, butter near the towns and mining districts easily making up to 4s. per lb., and a pint of milk from 4d. to 1s. The bulk of the butter and milk consumed in the country comes from Cape Colony, Australia and other overseas countries. Then poultry. With eggs at 5s. to 30s. per doz., and table fowls from 6s. to 12s. 6d. each, what visions of gold are raised. Fowl cholera is here, as in other countries, a fatal scourge. We believe ourselves that fowl cholera has one origin—dirt. It may be dirt in the water, that is, actual dirt, the water gets unwholesome through long standing in the sun. The native breeds are the most susceptible; the imported fowls generally escape. This points to weakened constitutions through much in-breeding. Geese and ducks appear proof against attacks. Cream separators and other dairy machinery, with incubators, are in use. We wonder whether some of our trained dairy maids might not be found of great value! At any rate, they train the young colonists in ways of cleanliness and good management.

The veterinary arrangements appear to us to be first class. In fact, it is a case of prevention as well as cure. There is so much danger of outbreaks of epidemics arising among Nature's stock that it behoves the Government to take all possible measures to stamp out at once any signs of disease at the first onset. Scab exists to a large extent among the native sheep and goats, and the Government provide gratis MacDougall's dip for those who can be persuaded to use it.

To sum up, we think there is a great future before Rhodesia. There will be drawbacks as there are everywhere. There is water, that is the first great fact; but to get the best result that water must by artificial means be brought in contact with the land. The markets are getting nearer every day, and as for the climate, there is much to be said in its favour. Perhaps the men who are most needed as colonists are that class here known as yeomen, or working farmers. They must be prepared to leave many comforts behind them, and they must also be prepared to take up the cultivation of many things hitherto strange and unknown.

Work on the Home Farm.

The thaw continues, but until yesterday, when we were favoured with a beautiful gentle rain, the frost gave way very slowly. A little ice in sheltered ditches is now the only sign of the recent visitation of winter.

Ploughs are at work on every hand, chiefly on fallows, either crossing or turning back the furrows. A fairly good breadth of Turnip land is ready for turning over, but the surface is a little too wet yet. We can do with some March winds now, and more sunshine than we have had lately. The Barley sowing season is here, and we are ready for it, but the land is not. It must be both drier and warmer before we shall pass it as a seedbed for Barley. Some farmers are preparing for the drill by giving their land a good chisel-harrowing. This opens the soil and encourages it to dry, but should more rain soon follow the work may have to be done over again. Perhaps they intend to drill Oats, which might be put in sooner than Barley, for they hardly need so fine a tilth. We think that the tendency is more in favour of Barley than Oats this season. Neither crop did well last season, but Barley was much less of a failure than Oats, which in so many cases were almost worthless, there only being apologies for both corn and straw.

A new Barley is being very much boomed just now, its name being Wrench's Prolific. We have seen it growing, and did not notice anything very striking about it except that there appeared a little similarity to Goldthorpe. It is, however, well spoken of for its yield, and farmers are preparing to sow it freely. We would prefer a stock of Major Hallett's Chevalier direct from him last year, and grown on land which would be a change to ours.

There is fair luck amongst ewes, but not a heavy fall of lambs. We are glad to see that the Argentine authorities have removed the embargo against the importation of British stock. This will be good news to Shorthorn breeders everywhere, but still more so to breeders of Lincoln sheep, who have been passing through a serious crisis owing to the restrictions recently in force.

As we expected, Swedes look very queer now the frost has gone. There seems to be no life in them, and a large proportion are dead and will soon be rotten. They will hardly be worth cutting, and the sheep must run over them and cut, or rather suck, for themselves.

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Journal of Horticulture.

THURSDAY, MARCH 13, 1902.

A Quarterly Review.

NEARLY a quarter of the current year has passed, and it is common to pause at intervals along the road one travels and take a backward survey. Since the beginning of the year there have been numerous little events engaging attention, but each of which seems to point with unmistakable directness to an awakening on the part of rural authorities, governing bodies, and the composing units in the provincial districts, to that sense of our dependent position in matters agricultural, arboricultural, and also as pertaining to the industry of fruit culture and preservation. We, in this England of ours, have been very callous to the progress of other lands in regard to pomological science and in forestry. Leaving agriculture alone in the meanwhile, it is appropriate in this cursory review to note with satisfaction that a Departmental Committee has been formed by the Board of Trade to inquire into and report as to the present position and future prospects of forestry and the planting and management of woodlands in the United Kingdom. Let us hope that the exertions of the Scottish, English, and Irish Arboricultural Societies will not have been made in vain.

Then there is the question of a fruit-drying and successful fruit-bottling industry for our islands. The Worcestershire County Council deserves well of the nation as a whole for having so carefully initiated a series of fruit-drying experiments at Droitwich, and though only a meagre profit was shown on the workings during last autumn, the desire is expressed to continue the trials, but with larger machines and on an altogether broader scale, by which it is hoped that greater economy and consequent profit will be the

READERS are requested to send notices of Gardening Appointments or Notes of Horticultural Interest, intimations of Meetings, Queries, and all Articles for Publication, officially to "THE EDITOR" at 12, Mitre Court Chambers, Fleet Street, London, E.C., and to no other person and to no other address.

result. Some of our readers may also have observed a recent paragraph (page 184) in the *Journal* which intimated that the Orient Pacific Company are offering advantages to European growers to ship consignments of fruit and vegetables to Australia. It is quite likely that this is to be the beginning of an important trade with the colonies, as, though Australia produces a larger amount of fruit than is there consumed, the seasons here and there are opposite, and Italian and English fruit will come in when their trees are not in bearing. Cold storage companies, too, have recently been formed, and they will materially assist the fruit salesmen. By their aid the latter section of workers in the fruit trade industry will be nicely enabled to regulate the supply of soft-skinned fruits (both English and foreign) according to the demand. And it would seem from a recent advocacy that each country house might have its own cold storage rooms without very great expense.

Planters have been busy ever since October last—and they still are. The present shortage of English fruit has been marked by the extensive plantings of Apple and Pear trees that have taken place in certain districts. One can only hope that, while planting largely, growers will also apply every rule in the up-to-date cultural and marketing code, whence a fair measure of success will of a surety follow their efforts.

Another most important event which comes directly within the present quarter was the conference on school gardens arranged lately by the Berkshire Technical Education Committee. It is being slowly recognised by the educational authorities in this country that it is better to learn by seeing and doing than by merely reading books. If gardening is to be usefully taught in rural districts there must necessarily be a school garden attached; and it is pleasing therefore to see that they are appreciated by the Government. The Middlesex County Council have recently founded a school garden. In Germany, especially, school gardens have existed for many years. These school gardens are not intended to make professional gardeners of each scholar, but rather to imbue them with a love for gardens, and to the commercial, more than to the professional horticulturist the ultimate advantages of such tuition should be markedly apparent. The issue of what is at present a very small monthly publication entitled "*The Nature-Study Journal*," from Wye College, Kent, predicts an advance towards that fuller knowledge of Nature which ought to exist more widely, but which unfortunately does not.

Some Things Unusual.

Last season, in a gardening periodical, a writer gave what to me seemed a useful hint in the acquirement of a popular, though unusual Christmas dish, namely, new Potatoes, without forcing. At the present time, with the vast and varied imports from other countries, one meets with things in the markets quite out of the common both in winter and summer, but to have some new Potatoes from one's own garden there seemed to me a spice of independence placed so easily within reach. The mode of acquisition was simplicity in the extreme. Procure a clean, square, ordinary grocer's biscuit tin, dig up some Potatoes in the garden while they are still young and tender-skinned, fill the tin, close down the cover, and bury it in the garden, and there is found the source of so much anticipated novelty in the coming Christmas fare. It was said by the author of this "wrinkle" that they would, when unearthed, come out of the box with all the freshness of the summer tuber. My attempt, however, did not reward me with just this desirable element to the extent I had looked for, notwithstanding, there was a suspicion of the summer flavour, particularly when eaten without the aid of foreign "spices," such as is so common and customary at Christmas time. Let me advise, then, those who yearn for novelty in the dull season of winter (not necessarily at Christmas, because then there is usually such a wealthy store of freshness to change the monotony of the winter season), to try this simple expedient for their own pleasure and that of friends. There would be all the more, because unexpected, pleasure, if this be done secretly, and in due time the treasure unearthed and presented without announcement from the "crier."

Rambler Roses.

This section of Roses is greatly in fashion at the present day, arches and pergolas being erections fast becoming additional garden features. It is not my intention to speak of the claims these Roses have for these purposes, but rather the feature such flowers make when rising from growths pegged down horizontally

to the ground. Last summer I saw a border of these Crimson Ramblers in great splendour treated in this way. The growths, as they advanced, were brought down and secured in horizontal position, which caused lateral shoots to rise and flower from almost every joint, or, at any rate, to flower with that freedom that a veritable hedge or carpet of crimson is formed. At intervals of a few feet were standard Roses rising out of this carpet of pegged-down shoots, and for the time it presented a charming living picture. It may be said there is nothing unusual in this, or nothing out of the common, but there are a good many gardens throughout the length and breadth of the land wherein such instances of Rose culture are absent, and which would not long remain so if examples such as I have instanced were actually seen by gardeners and owners of gardens.

Tropæolums* (Nasturtiums) at Midwinter.

There may not be any or but little novelty in these growing and flowering at midwinter, but, in the words of the Canadian lady, it might be said, "I have not seen them in England." What are referred to here are the ordinary so-called Nasturtiums of gardens. The Tropæolums are great favourites with some for the outdoor borders in summer, and especially those which are poor in soil, unsuited to the more delicately constituted annuals. The dwarf Chameleon variety was that selected for this winter display, and I am sure were those having conservatories to maintain in a gay state during winter to give these a trial, they would be well pleased with the change of aspect afforded by them. Sown three seeds in a 48-pot, stood in a frame to ensure more even germination, and then, when up, placed outdoors to advance sturdily, they developed into bushes that, when removed to shelves near the glass indoors, became literally a blaze of colour, which, needless to say, were much admired and commented upon as being out of the common, though of themselves common enough. They have at least the merit of being easily grown, and are cheap, and I venture to say that many exotics are grown in pots that produce less favourable "first-sight" impressions than a batch of these humble Nasturtiums. Thus treated, their first flush of beauty came in November, but they continued to flower, and gave material for cutting until after Christmas.

The Hubbard Squash.

In these times when economy and pleasure evolved out of gardening is so pronounced a feature, it may not be out of place to name a vegetable derived from the Marrow or Squash family, which can be turned to useful account in winter. Though at that season, when there is a very good representative selection for everyday use, culled from the garden, the desire is none the less strong for a change. It may not be so marked where conveniences exist for the forcing of Asparagus, Beans and Seakale for the everyday meals; but it is the case, we know only too well from experience, that in the dining-room there is a yearning for spring vegetables after a repetition of winter ones for weeks past. In many a large household the whole resources of the garden are drawn upon every day, though that resource may number a goodly array of variety, and it is this knowledge that leads to a state of existing monotony. Seeds of the Hubbard Squash reached me from a lady once resident in Canada, where it was much in request, and evidently appreciated. It is the size of, and has the appearance of a small-sized Vegetable Marrow of the Moore's Cream type, and when ripe and stored, becomes so hard skinned as to require some considerable effort to cut them into sections. My lady benefactress says it will be found as delicate in flavour, properly cooked, as a very young Marrow, which is true, and there is certainly a flavour surpassing the summer Marrow, judged from my own palate. She says "it will keep for as many months as you like," a most convenient attribute of a winter vegetable. Squashes are now grown much as affording an aspect of ornament both for summer and winter; this may take a place among them, and be really of greater value, because of its edible qualities.

In cooking, very little water is necessary, and if the outer shell is first cleaned, it is found better to cook them in sections, rind and all, and then, when ready, to dish up the pulp removed with a spoon, and serve much as is done with Marrows. Vegetable Marrows ripened and stored for winter use are common enough; but this Hubbard Squash, my lady correspondent says she has never seen grown in England, nor have I until this last summer, when I planted some myself. In this, then, there may be fairly claimed to be "something unusual."—W. STRUGNELL.

* The so-called Nasturtiums of gardens are botanically Tropæolums, belonging to an entirely different natural order to that of the proper Nasturtiums. Our best known Nasturtium is the Watercress, named *N. officinale*. There are, however, many other Nasturtiums, though few are worthy of being cultivated. The genus Nasturtium belongs to the Cruciferae, as do all the Brassicas, Wallflowers, and Stocks. The genus Tropæolum comes under the same natural order as do the Pelargoniums and Geraniums—namely, Geraniaceae, of Bentham and Hooker. The order has been repeatedly changed, however. The summer-flowering annuals to which Mr. Strugnell refers are mere varieties of Tropæolum majus (the climbing sorts) and T. minus, or Tom Thumb section. In nurserymen's catalogues they are usually wrongly named Nasturtiums. The genus Tropæolum includes a number of perennial herbaceous species, the best known being *T. speciosum* or Flame Flower.—ED.



King Edward VII. as a Tree Planter.

In an age when there is too great a tendency to cut down trees rather than to plant them, the splendid example set by Royalty during recent generations, should have the effect of creating an extended interest in planting, and perhaps in time we may have a national tree planting day each year, when both children and adults will turn out in their thousands to set by the roots in Mother Earth some useful or beautiful types of trees, which in future years shall spread their branches far and wide. Around the stately homes of England features of interest abound, some are transient indeed, others—such as fast developing trees—will stand out in greater grandeur as the years roll on. The pleasing custom, adopted by many members of the Royal Family, of planting trees to commemorate their visits to various estates in Britain is already creating special features of interest in widely distributed districts, and serves to show in a tangible way the inherent love for the “most ancient of all arts,” which reigns to some extent in the breast of king and peasant alike. This much is apparent at present, but what about the times to come? Assuredly we may hope that in future ages the names of earlier monarchs will live in the “hearts of the people,” not through history alone, but also by reason of the grand proportions of stately trees, which rear their heads or spread out their branches far and wide within the domains of those whom Royalty has delighted to honour. When records are made of the dates of planting, and imperishable labels affixed, the history of such trees is apparent to all who see them, and in the whole district around succeeding generations are imbued with special interest in the monarchs of the past, as well as in the rulers of the day; and who will say that such “living monuments” which endure throughout the changes of centuries are not typical of the British steadfastness for a reigning house?

King Edward VII., during the long period in which he was Heir Apparent to the Throne was a persistent tree planter, and did more than any living ruler to popularise the pretty custom of leaving behind a memento of a visit to some place of note, in the shape of a well planted tree, destined to stand out as a mark of Royal favour in the ages yet unborn. In the grounds around many notable gardens such trees may be seen to-day, with the history of their planting recorded on the label beneath, and I doubt not that many interesting stories could be related by those present at such functions about the King's kind thoughtfulness, interest in, and knowledge of such work. I, however, can only write of instances which have come under my personal notice.

Warwick is famed throughout the world on account of its ancient castle, which is admittedly the most artistically beautiful, and historically rich among all the splendid homes of Britain. The delightful grounds which surround it are singularly rich in Royal trees, and in prominent positions may be seen examples planted by three generations of the Royal house. The late Prince Consort planted a Sequoia (*Wellingtonia*) gigantea, which is now 30ft or 40ft in height. Near by is a splendidly proportioned and thriving Oak, planted by Victoria the Good. King Edward VII., while Prince of Wales, planted two sturdy Cedars of Lebanon on different occasions, and the present Prince of Wales, when Duke of York, planted one. The grounds at Warwick have long been noted for their magnificent Cedars; it was, therefore, a wise step to select for Royal planters trees so well adapted to their surroundings. In June, 1892, the Royal Agricultural Show was held in Warwick Castle Park; this was opened by the Prince of Wales, who, to the delight of the surrounding inhabitants, stayed some days at the Castle. Before leaving His Royal Highness planted a healthy Cedar, which is now advancing rapidly. A few years later the same Royal hands planted another Cedar near to the site formerly occupied by splendid specimens blown down by the gale of March, 1895. I was privileged to be present on both interesting occasions, and well remember that, while surrounded by a brilliant company, the head of our mighty Empire handled the brightly polished spade with the ease and practical knowledge of a finished planter, combined with the real grace of a king. It was no mere formal operation, but a systematic and thorough bit of tree planting. A large hole, and plenty of good soil had previously been prepared. Each tree root was spread out at full length, and each in turn covered with crumbling earth from the “Royal spade” until the

hole had been filled in and the soil made firm. If every tree planter adopted such thorough methods, many trees in Britain which to-day are stunted, would be growing with strength and vigour. When the second Royal tree was planted, the same thorough methods were adopted, and the (then) Prince thoughtfully inquired after the welfare of the previously planted tree, and when informed of its good progress, expressed the hope that the one before him would succeed equally well.

Royal trees, I think, usually thrive, even when planted in the height of summer, as, of course, an evergreen kind or one growing in a pot is then selected, the necessary shade for a time and the daily sprinklings with water help to keep the tree fresh till new roots have formed, and such matters generally receive a very full share of attention. All who have come in contact with the Monarch who to-day holds sway over Britain, and that greater Britain beyond the seas, must have been struck with his great force of character, his kindly thought, his grasp of detail, and the kingly way in which he sets at ease all around him, as well as by his magnetic influence in creating intense interest in the doings of the hour. During the memorable year on which we have already entered, let us hope that millions of trees will be planted throughout the Empire, to commemorate the crowning of King Edward VII.; trees which will stand firm and strong in the ages to come, like the true British Oak, which sends out its roots far and wide, as does the race it typifies, whose children gather from the four corners of the earth to uphold the parent's cause, and to pay homage to their King.—A LOYAL SUBJECT.

Greenhouse Ferns.

Well-grown Ferns are undoubtedly beautiful objects in the greenhouse mixed with flowering plants, and should be grown not only for the beauty and gracefulness of themselves alone, but because they are essential for enhancing the good points of both flowering and foliage plants. The range of varieties of beautiful Ferns which may be grown under greenhouse treatment, especially if moisture and shade can be readily afforded, is fairly extensive. Plenty of light, but shade from direct sunshine, is important. Air should be liberally supplied after the growths become somewhat matured, while adequate moisture is best ensured by giving the plants moist cool positions for the pots to stand upon. Small spar, or even sand or coal ashes, is suitable. For appearance sake the spar is best, but sand or fine cinders act equally well in holding moisture. Good Ferns may, however, be grown without standing on a moist base, though the latter is preferable. As a plunging material for pots, small or large, nothing equals cocoa-nut fibre refuse, and a small corner may well be set apart in a shady spot where small seedlings can be grown under favourable conditions without constantly deluging them with water at the roots. They will grow much better and quicker if they can be kept constantly moist in a medium where it is not necessary to constantly saturate the soil.

Among greenhouse Ferns the *Adiantums* stand forth as particularly adapted to the conditions of this structure. First may be mentioned the universal favourite, *Adiantum cuneatum*, commonly known as Maidenhair Fern. This does admirably under greenhouse treatment, and fine specimens can be grown if a moderate amount of fresh root space is accorded to the plants each year, supposing they have become pot-bound. Small plants may be potted on into larger sizes to form good specimens, while large plants which it is not desirable to grow to a greater size may be divided by cutting into two or four. This may be done in March or April, but where plenty of heat can be afforded to give a start, this work can be carried out earlier. An excellent compost consists of equal parts of fibrous, turfy loam, sweet leaf soil, a little peat, with some coarse sand and charcoal. Drain the pots sufficiently, and see that the ball of roots is thoroughly moist; use the compost also moist. After potting, water but lightly, until the new roots begin to work freely. After this, ample supplies will be needed, for the plants must never suffer.

A. assimile is very free growing, and of a graceful pending habit. It is best suited as a basket Fern in a damp, shady position. Repotting or division is usually needed each season, or the fronds are very poor. Another good basket Fern is *A. ciliatum*. The fronds spring from a central crown, and each is furnished with deeply cut and fringed pinnæ. At the points of the fronds young plants grow and develop fronds, these again sending out other plants. This variety does not require a large basket. *Adiantum gracillimum* is a most charming variety. The fronds are so light and graceful, owing to its having such a large number of minute pinnules, that it almost has the appearance of lacework. A few plants should be grown in a collection, though it is not so generally useful as *A. cuneatum*. All the varieties of *Adiantums* mentioned will succeed in the compost recommended for *A. cuneatum*. There are other varieties not so generally grown which are adapted for greenhouse cultivation.

while the stove Adiantums are both numerous and beautiful, some of them producing lovely tinted fronds.

One or two large and imposing varieties of Tree Ferns should be included in a collection. The Alsophilas are particularly beautiful, and may include *A. australis*, *A. excelsa*, and *A. Rebecce*. They will ultimately require large pots, and must have a space on the floor and plenty of head room. The Dicksonias, including *D. antarctica* and *D. squarrosa*, are superb varieties, having large, arching fronds.

Cyrtomium falcatum is a Japanese Fern growing 18in high, a useful evergreen variety, which grows well in equal parts of peat, loam, leaf soil, and sand. *Cystopteris bulbifera* is a hardy North American Fern, growing about 9in high, and is deciduous. It is also known as the Bladder Fern. The fronds are freely produced in May, and are very pretty and of graceful habit. Loamy soil, mixed with dried mortar or limestone suits it better than a compost containing peat or vegetable matter like leaf soil.

Davallias are specially beautiful, and adapted for growing in hanging baskets lined with moss, and filled with a compost of loam, leaf soil, peat, charcoal, and sand, on which the rhizomes may be pegged down. They will eventually cover the whole surface and spread round the baskets on all sides. The best varieties of Davallias for greenhouse culture are *D. bullata* (the Squirrel's Foot Fern), from the East Indies, and *D. canariensis* (the Hare's Foot Fern), from the Canary Islands. *D. repens* is a pretty, dwarf-growing species, for small baskets. *D. Mariesi*, an exceptionally beautiful variety, with fine cut fronds, from Japan, makes an imposing specimen grown in a large-sized pan or basket. *D. Mooreana*, a large-growing kind, is very fine for baskets, making fronds 3ft high. It is one of the limited number of Davallias, native of Borneo.

Attention ought to be drawn to the merits of Aspleniums for greenhouse culture. There are some interesting varieties, but one of the best for general purposes is *A. bulbiferum*. It will grow 3ft high, and has rich, dark green arching fronds, which produce young plantlets at the points of the pinnæ, and afford a ready means of increasing the variety. A shady, but light and airy corner suits the plants, which, however, require a considerable amount of head room, so as to give space for the proper development of the fronds. It is a native of New Zealand, and will succeed in a mixture of peat, loam, leaf soil, and sand. It is an evergreen Fern, and the fronds are very lasting, but not useful for cutting.—EDWIN D. SMITH.

Wassailing the Apple Trees.

The ancient custom, now fast dying out, of wassailing or toasting the Apple trees, is still observed in some of the outlying parishes of North Devon and Somerset, and probably nowhere with more ceremony and solemnity than at Wootton Bassett, near Minehead. Old Twelfth Eve, in January, twelve days after Old Christmas Eve, is the usual day, and in the evening well-nigh all the folk of the parish assemble at the farmhouse, and, after a good square meal, start in procession for the nearest orchard. A goodly supply of cider is carried by the stronger men of the party, "the butler" brings a two-handled mug and some pieces of toast, and the "master" walks in front with the light, whilst a number of men with guns, old muzzle loaders, blunderbusses, or anything that will make a noise, form the rearguard. Arrived at the orchard, the party all form in a ring, joining hands, and the master in the middle seizes a branch of the tree, and, more or less out of tune, sings the following words:—

Oh Apple Tree, I wassail thee!
In hopes that thou wilt blow,
To blow and to bear well,
So merry let us be;
For the Lord doth know where we shall be
To be merry another year.

Then all the folks standing round holloa, shout, or sing:—

Hatfuls, capfuls, three bushel bagfuls,
Barn floorfuls, tullet holefuls,
And a little heap under the stairs.

Deafening cheers are then given, and the men who have been standing outside say, "Now, Tom Pod, we wassail thee!" and then they let off their blunderbusses and other weapons. The health of the Apple tree having been solemnly drunk, the master blowing off the froth and the two-handled mug having gone right round the ring, the butler takes a piece of toast, and, pouring cider over it (called "basting"), hands it to the master, who sticks it up in the tree for the robins, in the hope that it will bring luck. The ceremony completed, observes the "Western Morning News," the procession moves off to the next orchard, and so on until each has been visited and wassailed.

Ornamental Waterfowls.

By the Editor of "Poultry."

IT has somewhere been stated that nothing is more contagious than the love of natural history, and that few things are more deeply implanted in the human mind than the love of animals. And one has only to visit any of the parks that abound in and around London to be convinced that there is more than a modicum of truth in such remarks; for, be other features ever so attractive, the greatest interest of visitors is invariably centred in the lake, upon the surface of which a collection of Anatidæ is always to be seen. Nevertheless, it is an irrefutable fact that ornamental waterfowl are reared in England to an extent not nearly approaching that to which they are cultivated on the Continent. This is a matter of regret, since, apart from being a most absorbing hobby, the rearing of such birds is by no means an unremunerative occupation.

Contrary to general belief, the keeping of tame wildfowl need not be the exclusive pleasure of those who have—

Thirty large domains,
Forty grand châteaux,
Fifty fertile plains,
Sixty suits of clothes,
Lots of gold and silver, &c.

We have seen a pair of Mandarin and a pair of Carolina ducks revelling in luxury which were the tenants of a washing tub sunk in the ground. Indeed, there are very few places where waterfowl cannot be kept; but, at the same time, too small a pond is not to be recommended for the purpose.

In most instances there will be at the disposal of readers of the *Journal of Horticulture* grass and gravel that can, with little trouble, be converted into a "run" for waterfowl, which in such a place may be reared in perfect health. Should, however, breeding operations be contemplated the birds must be permitted in spring and summer to have access to some kind of pond, upon the banks of which their houses or "kennels" may be placed. The water need not be more than 2ft deep, except at places which serve as scours and landing stages. These should be cut through the bank of the pond, so that the birds may be enabled to swim out, since if the sides are too precipitous, and the ducks are tired, they cannot always climb out, and are in consequence drowned.

The enclosure around the pond must, of course, depend upon the space that is available, but it should be of greensward. It is not absolutely essential to provide a shady place for ducks, but such will serve as an excellent shelter from heat and wind, consequently if shrubs are enclosed so much the better. Other embellishments will suggest themselves to the thoughtful reader, and the whole may be surrounded by wire netting 6ft high, although a properly pinioned bird rarely gets over a 3ft fence.

As a staple diet for waterfowl, wheat and barley, or the ordinary poultry mixture may be given, while as green food grass and duckweed are greatly relished. The birds will also devour small insects and molluscs, which abound on the grassy banks of their ponds. Different varieties, however, require different dietary, according to their habits, but regularity is a point in feeding that is of great importance.

So numerous are the varieties of waterfowl, and so varied their charms, that it is a matter of some difficulty to give a list of those that are likely to find favour with everyone. It may be mentioned, however, that Carolinas, Mandarins, Sheldrakes, Brazilian Pintail, Casarkas, and Whistling ducks may be purchased tame-bred, and if a pair of brown Call ducks be added they will greatly assist in keeping the flock together. Other birds that may be tamed by pinioning and by judicious treatments are Dunbird, Pintail, Widgeons, Shoveller, Tufted duck, Gadwall, Teal, Scaup, and Garganey, but they should, however, be confined.

Coronation Trees and Spaces.

Sir William Vincent, Bart., Vice-Chairman of the Metropolitan Public Gardens Association, approves the suggestion made by the "Morning Post" of the 4th inst. respecting the planting of Coronation trees. "But," he says, "in those localities able to provide more extensive memorials the association would point out that the provision of open spaces of one kind or another for public recreation is an especially appropriate type of memorial." Such a form of commemoration was, he states, recommended at the Diamond Jubilee, when some seventy places were opened. He adds that Mr. Basil Holmes, secretary of the association, 83, Lancaster Gate, will be glad to give any information regarding the powers and duties of public bodies in relation to open spaces.

Commercial Horticulture . . .

STARTING IN BUSINESS.

As a Market Gardener.

G F late years market gardening has become quite the fashion. Luckily, the demand for fruit, flowers, and vegetables has kept pace fairly well with the remarkable increase in the number of producers, and if only the foreign competitors could be as severely handicapped when sending their produce to our markets as we are when trying to compete with them, there would not be much cause to complain as to prices generally. Market gardening is a fascinating and exciting pursuit, surpassing in this respect any other phase of gardening, but it is not such a gold mine as many inexperienced beginners have fondly imagined. As a matter of fact, delicate young gentlemen or the healthiest of ladies, without any previous experience worthy of the name, may, and usually do, find themselves in a state of chronic bankruptcy before they have been at it many years, and not a few private gardeners have found, when too late, that their previous training was not, in the long run, of nearly so much value as they had, reasonably enough, persuaded themselves. Not having had any previous experience necessitates paying a high price for the services of someone who has, and who may, or may not, be a success, while many have to unlearn much that has been learnt and otherwise pay dearly for. I have pointed out these difficulties to a rather large number of men who have paid me the compliment of asking advice upon the subject of starting to growing for market; but it would appear that many of these had already made up their minds to commence, and, I have no doubt, dubbed me a "croaker" for my pains. Once for all let it be understood that I have not the slightest interest to serve in checking others from commencing an industry they know next to nothing about. It is not these raw beginners and small undertakings generally we have most to fear, but rather those huge establishments that are so admirably conducted by men of the Rochford-Hamilton-Page order. I never miss an opportunity of spending a few hours among market growers of this stamp, and if you have any conceit about you, this they will soon dissipate.

My object in penning these notes is not to discourage would-be market growers, but rather to prevent them from making costly mistakes. No start should be made in a hurry. Everything ought to be well thought out, more reliance being paid upon information obtained from men already successfully engaged upon somewhat similar lines, than upon one's own judgment or premises based principally upon experience gained in a private garden. This may appear doubtful advice to give, but I can assure my readers that market growers are not the narrow-minded, greedy sort of men that they are sometimes most unwarrantably deemed. I have mixed freely and frequently among all classes of market growers, including some owning whole "villages of glass;" others farming many acres of land on which hardy fruit and vegetables are well and profitably grown (and these are the most industrious and hardworking of all, who occupy from six to twelve acres of land near to a town, for which they pay so much as £10 per acre rent), and all have been most courteous and open. Beginners should also spend a few days hunting up useful information, thereby effecting considerable savings in different directions. In this connection I may mention a friend who decided to become a market grower. Starting with a good, open mind, and with a fairly "thick skin," he gained all the information he required at the outset from various successful men, and a better or more cheaply erected group of Tomato, Cucumber houses, and vineries could not be found anywhere. Bringing good business habits into the undertaking, he has been most successful; and is now frequently consulted as an authority.

Especially is it desirable that beginners should start with a clear notion of what they intend to grow. They must remember it is not what they think *ought* to sell, but rather what there is a steady demand for, that should be grown. The most successful men are those who take up a few things and do them really well. After all, it is somewhat surprising how few kinds of cut flowers and plants are grown for the markets, and the same may be said of fruits, as well as vegetables. Market gardens do not in the least resemble private gardens. Those who manage the former are under no obligations to maintain a constant supply of everything in and out of season; but their aim (as before stated) is to grow a few things well, and to have them ready for the markets when the best demand occurs. It is only novices who recommend market growers to cater for so many private

establishments in town, supplying them with anything and everything they may require. The worry and expense connected with this kind of marketing would shorten the days of the majority undertaking it, and one of the charms associated with market gardening—independence and freedom from "nagging"—is entirely lost. Those who cater for private families can never make a clean sweep of their crops with a view to following closely with some other crop, and they invariably spoil a portion of the more perishable fruits, flowers, or vegetables. Private customers are very erratic in their orders, are difficult to please, and are liable to give instructions to stop sending just when things are cheap and everybody else is well supplied. Added to this, there is a considerable outlay in hampers, boxes, and the extra labour in collecting, packing, and the like to be faced. It will surprise me if the middleman is ever done away with as far as common vegetables, flowers, and fruit are concerned.

Very frequently we see the advice given to growers of choice fruit and flowers to steer clear of commission salesmen. We are told that certain fruiterers would be only too glad to take Peaches, Nectarines, Grapes, Tomatoes, and Cucumbers direct from the growers, and thereby effect a saving of part carriage and in particular salesmen's commissions, to the no small benefit of the grower. We are led to believe (unless we know better) that all salesmen are rogues and liars, while the fruiterer is everybody's friend but his own. As a matter of fact, nearly, or quite the reverse is the case. Who buys direct from the grower so long as that particular individual is a little cheaper than his rivals, or lower than the market price? The fruiterer. Who deserts a grower when the prices are a little lower elsewhere, and local produce becoming more plentiful? The fruiterer. Who clamours for heavy consignments, and sends a "stop" telegram a week later? The fruiterer. Who complains of bad packing and damaged produce very frequently without good cause? The fruiterer. Who keeps the grower's baskets constantly in use for all sorts of purposes that soil them, never thinking of buying baskets for his own use? The fruiterer. Finally, who is most slow in sending cheques, and occasionally ends by paying 5s. in the £? The fruiterer. I freely admit there are a few really good, fair-dealing men among fruiterers and florists—some of my best customers must be included in this category—but the majority are a bad lot, not contented with less than fifty per cent. profit on all they obtain direct from the grower. I am not exactly "holding a brief" for commission salesmen, but merely speak of them as I find. Treat them fairly, and you will have no cause to complain. Let them know you appreciate their services by sending the best of everything as well as the ordinary produce to them in times of scarcity as well as when most plentiful, and they will return you the best prices that can be got for your produce. If you send to them just when gluts occur, or when you cannot dispose of your produce elsewhere, or if the grading and packing is faulty, then low prices are bound to be returned. What else can rightly be expected? Those fitful supplies, and which are often very insignificant, that reach salesmen from private gardens are rarely of nearly the same value as the owner, rather than the worried gardener, thinks them. Because fancy prices are asked for choice productions in West End shops, it does not follow that the salesmen have also obtained high prices for similar consignments. The shopkeepers forget to give the consigners the benefit of the higher prices. All they do is to obtain the best market prices going, and these they return, less commission charge for use of boxes and baskets, and perhaps market tolls. Commission salesmen are indispensable to all growers who cannot sell their produce locally, and in very many instances do better for regular senders than they can in any way accomplish for themselves.—W. IGGULDEN.

(To be continued.)

As a Seedsman.

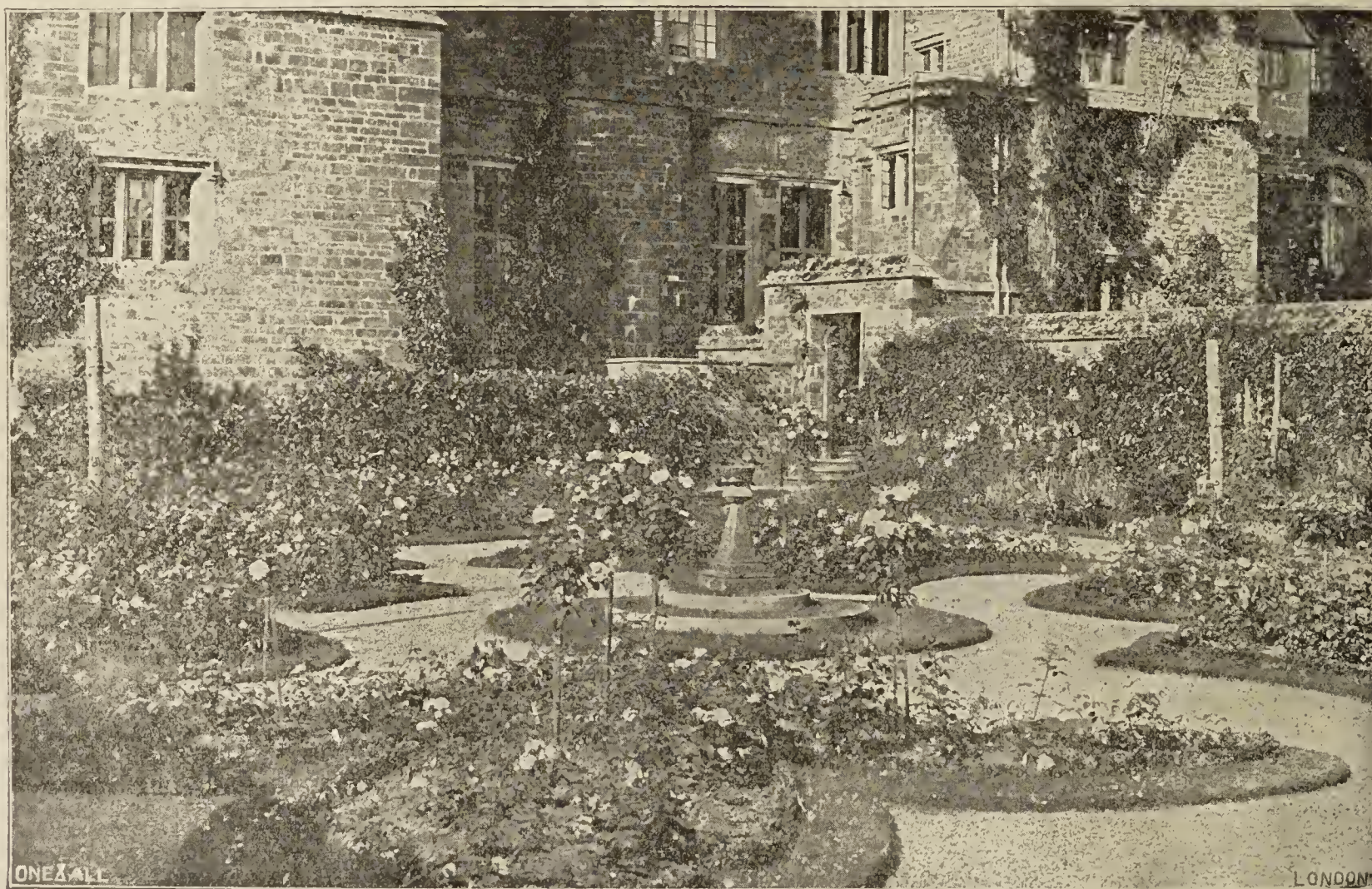
There is no other business, one would think, so well suited to a gardener retiring through any cause from private service than that of a seedsman. He should be a judge of good seeds, ought to know well what varieties are best for certain purposes, and should be able to give his customers who are amateurs good advice and useful to them. Doubtless there are some among my fellow gardeners who have such an idea. If these are in good places and fairly comfortable, if they are earning a living for their wives and families—then my advice to them is to stay

where they are, and leave business severely alone. On the other hand, a man of fair business acumen, willing to work and wait, may by patience and energy make for himself a good living, not from seeds alone, but by introducing other cognate subjects with them.

In starting a seed business it will be necessary to look out for a suitable position, where not only is there likely to be a local demand, but where, if possible, country carts are passing. People who bring their own produce to market towns are among the best customers of any local seedsman, and when once they get into the habit of dealing with him are not likely to go elsewhere so long as the goods he sells are satisfactory. Having secured such a position, the question arises, What will be best to introduce in connection with the seeds? The gardener's first thought may perhaps turn to plants and flowers, or possibly fruit and vegetables. He will do well to remember that all these are very perishable commodities, and, although showing a good margin of profit when the demand is brisk, must be a dead loss if left on hand. A more suitable adjunct to seeds will be Corn and other requisites for poultry and horses, that these same country

put that value in it. Don't buy them full, for they show less profit than seeds purchased in bulk, and, to put it mildly, the quality is not always the best. Select a good wholesale or trade firm, and purchase your seeds first hand. Place your orders early, or possibly some of the most popular sorts will be sold out, and you may have a difficulty in obtaining them. Respecting sundries, such as manures and various proprietary articles, buy only sufficient for present needs, as goods that lie about in the shop soon look dirty and soiled, though the contents perhaps of the tins, boxes, or what not, may be perfectly good.

Regarding bulbs, these have been the stumblingblock to many young seedsmen. The traveller from the Continental firm calls with his prices, which, compared to those charged for the goods retail, seem very low indeed. They are the very thing you have been thinking about, too. He may show you some fine window tickets, as "Bulbs imported direct from Holland," or some such legend, and you are asked to accept some for your shop. But this is only one part of the story. The wily Dutchman will be in good time, and obtain all the orders he can at a remunerative price. When he has done this he dumps down all



My Lady's Garden—Broughton Castle. (See note on page 241.)

customers often require in quantity. These do not spoil by keeping and are always in request, and though on the face of it the profits may appear less, yet by judicious buying when markets are low, and a progressive or pushing trade, they may have more in them than at first appears.

Then, in the neighbourhood chosen, there will, in all probability, be a small coterie of "fanciers" of some kind—as fanciers of poultry, pigeons, or cage birds, dogs, or some other animals. Find out what is in demand for these, and what is most difficult for these fanciers to obtain; stock this, and sell it at a fair profit, and the co-operation of "the fancy" is yours for the asking. A seed business in a small way can never be sufficient, as there are times when literally nothing is sold, and this is my reason for calling attention to these outside matters.

With regard to the seeds themselves, it will hardly be necessary to mention that only those of first-rate quality should be bought. You can buy penny packets of rubbish from the nearest chemist, the ironmonger, or the grocer, and the assistants at these places will soon pick out "the best sorts" for you! But the real patron of the seedsman will have none of them. To use a slang phrase, "He has been there, so ought to know." By all means have the pictorial packets; but have them empty from the wholesale merchants, and if a customer wants a penny packet

his surplus stock in some of the principal towns in the United Kingdom, and they are sold by auction at prices far below those he obtained from the Trade. Now, were the Chancellor of the Exchequer an intimate friend of mine, I should suggest in a friendly way that here is an exceptionally fitting foreign product for a big duty. Bulbs are not absolutely necessary, any more than whisky or tobacco is. Many of them can be produced at home by our own growers, and this would furnish splendid work for British labourers. If the duty did no other good, it would at least prevent the Dutchmen from sending over stuff that only just pays for freight and other expenses, and he would have to conduct his business differently.

One word as to customers. There are often people who have a fancy for some special variety. In your own mind you know well enough that there are better varieties, and perhaps more productive sorts; but beyond a slight mention of these it is not always wise to go. Again, in some localities a certain variety of Potato, Pea, or other vegetable may be thought of highly. If you know a better one in its season, stock it, and endeavour to get your customers to try it alongside their favourites; but stock their favourite kinds too, for, where some will be persuaded, others will not, and in business one has many masters. —H. R. RICHARDS, Bristol.

As a Florist.

The business of a cultivator of plants usually known as Florists' Flowers, for sale, is a very old and honourable one. It is not of this business I mean to pen a few notes, but of that of florist, in the more modern acceptation of the term: starting a florist's shop for the sale of flowers and all that goes to constitute a florist's business. This business has several grades, varying from the selling of a few flowers by the ignoramus to the highest development of floral art. The ignoramus often finds the flower business an unprofitable one, for the obvious reason that no business worthy the name can be conducted without knowledge, and the little capital on hand to start with frequently takes wings ere the requisite knowledge is attained. Some have a greater aptitude for business than others, and soon acquire the art of successful trading; but, as a general rule, anyone, either male or female, who means to succeed as a florist should take means to acquire a knowledge by serving in a good established business a regular apprenticeship.

Assuming, then, a preliminary knowledge of the requirements of the business, the first step is the choice of a shop. This is a most important step, as it is of the very first consequence that it be in a suitable locality, and often a few yards make a wonderful difference. If possible, it should be near a good residential district, but yet in a busy thoroughfare, where business may come of its own accord, when an attractive display is made to tempt the passer-by. The class of flowers kept must depend a little on the neighbourhood chosen, as what might be popular in one locality might be the very reverse in another. Of the very first importance, however, is to keep the best in season. Don't be adding every new flower, after you see it in another shop, but see that if you are not the first to have a novelty, not to be behind others, and always prefer quality to cheapness. First-rate fresh flowers will always prove a pleasure to your customers, and they will be sure to talk of them to their friends. If ladies are tempted to buy poor quality for mere cheapness, they are sure to be disgusted, and probably next time they purchase, they will go to another shop, and there give a better price, and lay the entire blame on the unfortunate florist who has sold them the cheap ones. Nobody ever makes a really successful business by mere cheapness: first-class flowers at a moderate price will in the end ensure success. The seeming success of mere cheapness is evanescent.

The next important point for beginners is to beware of keeping too large stocks. Keep up an attractive and varied display, but make it an unbending rule to have fresh stock daily, and this can only be done by stocking moderately. Customers will soon find out where the freshest flowers are to be had. They are more beautiful when purchased, and keep beautiful for much longer time. In these days of auction sales there is often great temptation to buy largely, as cheapness is sometimes thereby attained, as well as the semblance of doing a large business. Be not deceived, however: your opponents in business can form their own opinions pretty accurately, and nothing will sooner bring failure than imitation of the frog blowing itself out to look like the ox.

The success or failure of a florist will largely depend on the ability for "making up." The mere sale of cut flowers is not a very profitable concern, and a reputation for skill and artistic taste in making-up will soon spread, and cause a business to grow from less to more. Experience in this is the best schoolmaster, and the beginner must set a high ideal, and never lose an opportunity of improving by careful study of the best examples that are to be seen. The making up of wreaths and other memorial designs is the chief and most constant part of a "making-up" trade, and the beginner will do well to make everything connected with this department a special study; but while picking up ideas from all good examples that can be seen, never slavishly copy other people's work, and the more of originality the artist possesses the better, though mere originality should never be sought after, as it is often attained by sacrifice of elegance and beauty. Remember, too, that very satisfactory effects are often attained by the skilful use of common flowers. Many people prefer them to choice exotics. Here, too, avoid mere cheapness: no lasting reputation will come of it.

A nice specimen of memorial flower work should always be exhibited in the shop window. This is invariably a profitable investment, as though a sale may not always be effected, nice work always stimulates business. We now come to bouquet making, about which pages might be written, but must be disposed of in a sentence or two. Here, too, seek after the highest attainments—be up-to-date, miss no chance of seeing the best. Read notices of social functions where descriptions are given, and always be able to show your customers you are conversant with, and can execute, the latest ideas. The number willing to pay for the best that can be done may be few, but those willing to buy at an up-to-date establishment are many. Perhaps in no department more than in bouquet making is a thorough practical knowledge of flowers advantageous. Customers will be sure sometimes to want bouquets of flowers that are not in season. The floral adept will know at once to say so, and suggest some-

thing that will suitably fill the gap, while the ignoramus will look stupid and probably lose the order. Remember that in the flower trade there is no advertisement equal to a thoroughly well executed wedding bouquet order. The bouquets may be seen by hundreds, and quality and style are sure to tell.

I fear that space will not admit of more on the important subject of starting "as a Florist;" but, before closing, a word or two may be added on table decoration. To many florists this is an important business, but often comes slower to the new beginner than the departments already mentioned; but the florist young to business should seek every available opportunity of seeing good examples and profit by them. I think that at the present time there are no points of greater importance in table decorations than elegance and simplicity, lightness of touch, pleasing shades of colour to harmonise with the surroundings. Avoid laborious designs, such as arches, crystal lakes, &c.; in fact, the perfection of a florist's table decoration should be to leave it so that the guests would not see the hand of the professional florist—"the trail of the serpent is over them all"—but be led to imagine that the education and simple refined taste of the hostess had inspired the arrangement.

It is hoped that these few incomplete remarks may be useful to beginners. They are suggested by a quarter of a century's experience, but everyone must know that they must "work out their own salvation." Do not be led away by the idea that the business of a florist is an easy and pleasant one. It is a hard, laborious business; pleasant to those who find labour a pleasure apart often from profit, but profitable only where trouble and labour are never grudged if so be that the highest artistic attainments are achieved.—OLD FLORIST.

Letters from Old Friends.

Rats, and Potatoes.

The rats and myself are still friends—on occasion. I have a number of shallow, wooden boxes, without lids, distributed openly upon the floor of a cowhouse—disused pro tem.—containing my new North American hybrid seedling Potatoes. Mr. Rat is a connoisseur amongst these "Cinderellas" of Nature, and makes his choice. But if I did not take the precaution to have the boxes placed in gradation—big upon little—vertically by nine o'clock or so in the evening, there would be none probably of Mr. Rat's selection left for me to work with in the future, and make a "note of."—R. FENN.

A Morning with Loudon.

I have read recently in the *Journal of Horticulture* an article with both pleasure and profit. It recalled to my mind a very pleasant morning I once spent with the late J. C. Loudon and family—whom I had the honour of reckoning among my early friends—at his charming villa at Bayswater. I have all his works in my library—two rows of them—and frequently use them as works of reference. In doing so, I have often thought what valuable extracts might be made from them to fill up any odd nooks and corners of our gardening periodicals. They are old, as things go now, but not out of date, and, containing as they do, well ascertained truths, never will be.—WM. PAUL.

Clevedon and its Rose Gardens.

Clevedon is not Cliveden, as some people and postmarks seem to imagine, but a very charming place in Somerset, which dominates the Bristol Channel and looks far and wide over the great plain, where doubtless once a much vaster estuary of the Severn washed the bases of the Mendips. Its great feature is the hanging gardens, dropping down the steep sides of its limestone ridges, terrace falls to terrace until the broad fertile expanse opens out to the Quantock. Time and space will but permit of my mentioning two localities—The Knott and Clevedon Court. At the former the upper terrace embraces the almost illimitable views, whilst the gardens drop down the hillside; on the house are luxuriant climbing Roses—Madame Falcot being conspicuous for height and breadth, Myrtles here are magnificent, recently made beds of Teas promise great things next summer, whilst the standards on the highest terraces seem fearless of drought in prospect of the usual rainfall of over 30in annually. But the glory of Clevedon is beyond compare Clevedon Court. Backed up by its ancestral heights, the grand old house—parts dating from the fourteenth century—with the sea at its back, looks out on sunny inland slopes. On the south wall is a Pomegranate which fruits yearly, I believe the only example in England. Terrace after terrace rises behind, the high walls clothed with climbing Roses of wide expansion and great vigour, whilst large round beds of the choicest Teas occupy places in front on the beautifully kept lawns. Sir Edmund Elton, Bart., is the owner of this earthly paradise, known far and wide for the lovely

pottery he sends forth from his little factory at the side of the Court. The Rose garden is Lady Elton's special pride, tenderly cared for, as all else, by Mr. Mason and his able assistants. Hallam is buried here at the old church, and the whole place is redolent with some of the sweetest passages of Tennyson's "In Memoriam."—ALAN CHEALES.

Our Fruit Supplies.

Than the question of a fruit supply for these islands, it must be granted, if any excuse was wanting, that few subjects are more necessary, few more important, or more generally talked over and differed about, or more complicated by the existing state of our National Policy. Well, while it must be allowed, without a moment's hesitation, that with regard to breadstuff, the staple food of the country, Free Trade for the prosperity and safety of our dense population must stand, this is by no means the case with so important a commodity as our fruit supply. Indeed, I will venture to say, it is a reflection on English industry and English intelligence that such a state of things should be allowed to exist to the annual loss of millions of pounds sterling, which foreigners pocket, as their profits, of the fruit supply we could grow, and grow better, at home. Being curtailed, however, this week, I must defer a discussion of the phases of this broad question till the next issue of the Journal.—HEREFORDSHIRE INCUMBENT.

Hardy Winter Flowers.

It is fifty years since I first took, and learnt from the *Journal of Horticulture*, then better known as the "Cottage Gardener," and as the Editor tells me that he wishes to have a note from old friends for the Spring Number, I am sending a few lines about the flowers which ornament my garden, and might, without much trouble or cost, ornament any English gardens in January and February. I am writing on the last day of February, which has been a cold and stormy month, with twenty days' continuous frost, several nights' minima having been below 10deg. Cyclamen Coum, in which I include varieties sold as C. ibericum and C. Atkinsi, shows its coloured buds regularly about Christmas Day. As it ripens seeds plentifully at the end of summer, and the plantlets generally come up round the parent, a little care will produce a large stock in a few years. Colonies of a dozen in conspicuous places, planted 4in deep, amongst stones only, want to be left alone. Round, glossy dark green leaves mark the type, the varieties generally having marbled leaves, but all come promiscuously from seed, as also do various colours of flowers, from dark crimson to white. The Winter Aconite need hardly be mentioned, though I never saw it flower more profusely than this year. It begins about the same time as the Cyclamen, and thrives over the roots even of Elms and Limes, and on banks which would be otherwise bare. It increases rapidly from self-sown seed, and till the end of May its after-growth smothers the surface so entirely that it is better to confine it to spaces where nothing else will flower. My Aconite banks are a boon to my neighbours' bees, which are enticed out by them whenever the sun shines in the early year. An inch of leaf mould in October ensures a good flowering. Then come Snowdrops. When I was a boy, gardens were content with one kind, but bulb catalogues now offer about twenty. I have tried them all, and find some far better suited to the soil than the old *Galanthus nivalis*, which was always shabby here. *G. Imperati*, a variable name is far larger and more robust, and equally early, and soon fills a garden if frequently divided and allowed to sow its seeds. Other excellent flowers are *G. Alleni* and *G. Whittalli*. October Snowdrops I have, but do not want Snowdrops till after Christmas. Of the Crocuses, Irises, and Hellebores my remarks must be reserved until another week.—C. WOLLEY DOD, Edge Hall, Malpas, Cheshire.

A Pleasant Memory.

Many well-remembered incidents crowd the memory as I look back over the past fifty years of an active life. Some stand out more prominently than others, as they have associations which set them apart as noteworthy pages in the Book of Time kept folded down. One of these was in the form of a journey from Manchester to Wakefield to attend a Tulip Show; the time, early in the Eighties. On the Saturday previous the annual exhibition of the National Tulip Society had been held in the Botanical Gardens, Manchester, and the late Rev. F. Tymons (of Dublin), the late Mr. Thomas Moore (of Chelsea), and I had attended the same, and were the guests of the late Mr. Samuel Barlow, at his residence, Stakehill House, Manchester. The Wakefield Tulip Show was on Monday, and we four travelled from Castleton, by Lancashire and Yorkshire Railway, to Wakefield. On arrival we found our way to the show, and met there the Rev. F. D. Horner and Ben Simonite, the judges. An enormous amount of interest gathers about a Lancashire or Yorkshire Tulip Show. The old-time procedure in the matters of staging and judging, the eagerness of the exhibitors as they await the awards of the censors, the criticisms to which both flowers and awards are subjected, the quaint Tulip talk—were all notable characteristics of the event. The prizes awarded, judges and exhibitors took their

way to a neighbouring hostelry to dine, and I shall not readily forget how amused the Rev. F. Tymons was in observing the Yorkshire custom of handing round as a first course the batter pudding baked under the beef, the joint itself following as a second course. During dinner pleasant talk of Tulips abounded; the stream of Tulip lore ran freely. Dinner over, there came a perambulation of Tulip gardens, and particularly of those of the brothers Gill. One of them was a working shoemaker, and he showed me how he had broken through the wall of his workroom and put in a low window, so that he could, as he sat at work, see the length of his Tulip bed, and note the gradual colouring, and finally the maturing, of the flowers. This was, indeed, an indication of floricultural enthusiasm, and I wondered how many journeys were made from the shoemaker's bench to the Tulip bed during the day! Later came handshaking and farewells, and a railway journey back to Manchester. Of the four who journeyed from the country of the White Rose to that of the Red Rose, Frederick Tymons—most genial of clergymen—Thomas Moore and Samuel Barlow long since received their call to cross the shining river; the two judges and myself remain for a time longer. Shall we who stay for a while and then go—shall we some day join those who have gone before in a land of such fascinating beauty and delight that imagination fails to picture it, and there meet again, and, amid flowers of eternal freshness, renew friendships severed in this mortal life? Let us hope so!—RICHARD DEAN.

Fruit and Vegetables in Small Gardens.

Recently I have, by a very common form of evolution, become an "amateur gardener," and have acted on the method of arrangement I am about to recommend in the department named. It has been with a painful feeling that I have noted the utter want of system and the confusion that reigns in the attempts to grow fruit and vegetables in small gardens. They look as if some demon of disorder had showered them down from the aerial regions in the very perfection of disorder, so that the fruit trees—Apples in particular—should injure the vegetables as much as possible, and vice versa. They render working, also, as inconvenient as possible. Let us consider that the area of ground that can be devoted to fruits and vegetables be, say, 36yds by 20yds, and having a south aspect. Along the northern margin I would plant a row of pyramid Apple trees, 9ft apart; at each end, and at right angles with the back row, I would do the same. That would give as many Apples as might be a desirable proportion; but if more be desired, then plant two or three rows at equal distances between the two end lines. If Pears are desired, a row or two might be devoted to them, and if no other space be available for Raspberries, Gooseberries, and Currants, the boundary line of Apples might be sufficient without the intermediate ones. The latter could be devoted to the small fruits. But if a separate space is available for them, they are more conveniently protected from birds if placed in a quarter by themselves. If a length of wall be available, some Plums and Cherries may be planted; but these fruits can be bought cheaply, and Pears and dessert Apples put on the wall.

Openness Necessary in Gardens.

By such an arrangement of the fruit trees and bushes, there are open spaces for the vegetables in rows running north and south. In order that there be easy access for barrows, and for doing the work connected with vegetable culture, no trees or bushes should be planted on the south boundary, where they can throw shade. Single upright cordon Apples are to be recommended for the intermediate lines on account of the little space they occupy, and I find them very fruitful under high culture. To prevent the fruit from them being shaken by storms of wind, drive a line of 6½ft larch, or any other hard-wooded stakes, along the rows at 7ft apart, and along their tops fix stout round rods, driving a nail through them into the posts, to which tie the cordons, which may be allowed to run to 7ft in height. These cordons, if not pruned too closely, yield good crops of fine fruit. The fruits of large kitchen Apple trees, on good soil and well fed, run to 1lb each. I would briefly refer to a few cultural points regarding Apples.

Cultural Points Regarding Apples.

I think the English Paradise stock the best for small gardens. In planting the trees I do not think much manure should be mixed with the soil to a greater depth than 8in or so; nor is it desirable to have the trees when planted much above the ground level unless the soil is very strong and in a wet locality with a bad subsoil. But on a good open subsoil there is no need for high planting, the crops being very apt to suffer in times of drought. On the Paradise stock Apples require to be well fed, and I think it preferable to feed from the top with short stable manure and forking in some substantial artificial manure. The mulch should be left on all summer, and in dry weather the soil should be kept moist. Trees planted in rows as has been recommended, are easily got at either by hose or water-pot, and to make more sure of crops every season too heavy crops should not be indulged in. It results in inferior fruit with less certainty of crops every season.—DAVID THOMSON.

Tynninghame House, East Lothian.

THE SCOTTISH HOME OF THE EARL OF HADDINGTON.



THE far-famed Lothians, centralmost of the Southern Lowlands of Scotland, include the three counties of Linlithgow, Edinburgh, and Haddington, which, in general speech and writing, are almost invariably named West, Mid, and East Lothian respectively. Connectively they form a rich and fertile hinterland* for the city of Edinburgh westward, and the agricultural town of Dunbar to the east. Part of this broad plain comprises

of hills. East Lothian (as I will now continue to call it) has been renowned for its splendid Potato districts during a lengthened period, but the orchards at Ormiston and Prestonkirk are, I fear, in almost the same deteriorated condition as those at Gattonside and Melrose, on the banks of the Tweed, near Abbotsford. The county, however, continues to be the centre wherein are many manorial residences, the more renowned of which are Tynninghame, for long the home of the successive Earls



Tynninghame House: the west front.

a valuable coalfield, which is coeval and united with the extensive carboniferous limestone system which stretches from the shores of Ayrshire across the valleys of the Clyde and Forth to the eastern limits of the "Kingdom of Fife," and a spur, as we remark, bears south-east and appears in West and Mid-Lothian. But Haddington is almost purely agricultural, with many busy little towns and villages situated upon its mildly undulating surface, which comprises a total area of 190,368 acres. Breasting the Haddington seaboard the land is flat, or composed only of gently swollen ground, but in the south of the county the aspect is hilly, and this character culminates in the Lammermuir range

* Hinterland = Hinderland (German).

of Haddington; Whittinghame, well known as Mr. A. J. Balfour's Scottish seat; Archerfield, belonging to the Ogilvy's; as also Biel, and Winton Castle. Other estates of first importance include Sir Archibald Hepburn's home at Smeaton (where Mr. Black has enjoyed the superintendence of the gardens over forty years); Yester House, possessed by the Marquis of Tweeddale; Newbyth, so long the haven of rest for Sir David Baird, Bart.; and I need only name Preston Grange, owned by Lady Suttie; Gosford, the property of the Earl of Wemyss, from whence the present head of the Royal gardens at Sandringham was chosen; and, lastly, Broxmouth Park, the Duke of Roxburghe's seat—all of them magnificent in extent, and controlled by Scottish aristocratical

families noble in their lineage and known throughout broad Scotland. But it is to Tynninghame—so deserving to be remembered—I must confine this sketch. The Tynninghame estate of the Earl of Haddington is scarcely less sylvan in its aspects than are the Perthshire Highlands. The site of the house affords beautiful perspectives, for not far out on the north side roll the North Sea waves, the Firth of Forth meandering towards the setting sun, with the Fifeshire hills and shore banking the view, far on the same horizon; Inchkeith, with its lighthouse, and the Bass Rock, or Isle of Bas, peculiar for its colony of Solan geese, out to and around which the pleasure steamers from the port of Leith run many times daily in summer, and the breezy parks and dales by the time-honoured manor—all combine to make Tynninghame a pleasant place and delightful home. This was the estate on which the first authentic forest-planting scheme was tested in Scotland during the life-span of the sixth Earl of Haddington, in 1705—Queen Anne's reign. Legend—supported, nevertheless, by reasonable deductions—would bestow the primary honours as a Scottish planter on the Earl of Linlithgow, who is accredited with having planted the now patriarchal trees on Callender House estate, in Stirlingshire, after his return with the exiled Charles the Second at the restoration of that monarch to his throne. The influence of Thomas, sixth earl of Haddington, was, however, so great that he justly merits the title to be "Father of Scottish Planting." Imagine the beautiful Lothians without trees, largely covered with morass and swamp, cold, wind swept, cheerless. Southern folks even now, when "up North," feel the need for further shelter from the biting east wind's blast that so steadily blows across from St. Abb's Head, on the east coast. Yet the records show that so late as two hundred years ago there were no enclosed fields, no proper hedges, sparse shelter of any kind, and, of course, agriculture was in what we would now consider a very rude condition. Anyone who reads the story of the Battle of Prestonpans—so interestingly narrated, for example, in Sir Walter Scott's "Tales of a Grandfather"—will find that the success of Prince Charles Edward's arms ("Bonnie Prince Charlie") was largely due to the strategic move

of the Highlanders through what General Sir John Cope had deemed to be an impassable morass, and which resulted in their surprising the left wing of the Royalist army. This was in 1745, and the instance is here referred to that the distressful state of the land at so recent a date, yet now so rich and splendidly cultivated, may be judged. It goes to prove how great had been the transformation over the face of the land since ancient times, when the great Caledonian Forest stretched eastward and west, north and south, the few patriarchal remnants of which (said to be six hundred years old) hold up their gnarled limbs in the higher grounds of Dalkeith Palace, near Edinburgh. By various operations carried on by the hand of Nature and of man this extensive tract of forest, as of woods elsewhere, had been destroyed. The sixth Earl of Haddington began to plant Binning Wood, a forest of 300 Scottish acres, close by his mansion, as I have already mentioned, in the year 1705. By 1730 planting on a large scale had become very general in Scotland, and by the exertions and example of such other contemporaries as Archibald, Duke of Argyll, the Earls of Bute, Duke of Athole, Sir James Nasmyth, and Sir Archibald Grant very large estates began again to be clothed with timber.

It may be apposite to refer to the influence of Lord Haddington's letter to his grandson on the subject of planting. This was really a book, and entitled "A Treatise on the Maner of Raising Forest Trees, &c.; In a Letter from the Earl of — to his Grandson: Edinburgh, MDCCLXI." This very scarce book is included in the Signet Library, at Edinburgh, and contains many interesting personal details. Though not printed till 1761, the Treatise was written in 1733 (the Earl's own son, Lord Binning, having died the year previously) to the eldest son of this Lord Binning, a boy of thirteen, and who succeeded to the title and estates two years afterwards. "A Short Treatise on Forest Trees," &c., appears to be an abstract of the above, and was carried to three editions—1756, 1760, and 1766.

According to the Rev. John M. Wilson's Imperial Gazeteer of Scotland, "The manor of Tynninghame, with the patronage of

the church, anciently belonged to the Bishops of St. Andrews (who possessed a house in the vicinity), and was included in their regality lying on the south side of the Forth. In 1552 it appears to have been conferred on the College of St. Mary's in St. Andrews, on the founding of that institution by Archbishop Hamilton. The manor was for a time held, under the Archbishop, by the Earl of Haddington; it was purchased by him in 1628 (when Charles I. and his Parliament were at the height of their quarrel) and henceforth became the home domain of the family."



Photo by

Fountain at intersection of cross flower borders.

Lady Binning.

Tynninghame House stands between 2 furlongs and 3 furlongs inward from the north bank of the Tyne, and possesses the appearance of a very large mansion in Scotch Baronial style. It has been added to from time to time, and was entirely remodelled in 1829 by the ninth Earl. Between the mansion and the river are two fine arches of Norman architecture, the only remains of the ancient church of St. Baldred, and now the family burial-place of the Earls. The name Tynninghame is the *ham*, the *ing*, and the *Tyne*, of the Anglo-Saxon, collected in reverse order, and meaning the hamlet of the meadow on the Tyne, and it graphically describes the position of the village, which originally stood near by the manor of Tynninghame. This hamlet lay between the present garden, the church, and the river. The house, illustrated on page 227, is faced on its west front by an old-fashioned flower garden, first formed about 1829, but slightly changed since then, on the south side of which stands a line of very old Portugal Laurels growing in huge tubs, and thus removable. A moss and lichen covered ornamental terrace wall supports the western and higher flower garden from another plateau studded with beds and borders on the south side, and leaves the view clear to range outward and across a broad, undulating park embellished with trees, to the position where flows the river. Around on every side, though at a distance and stretching north-westward far out toward the west within a few miles of the waters of the Firth of Forth, is Binningwood, composed very largely of beautiful and valuable Beech trees. This forest of trees covers what was once Tynninghame Moor or Muir. The trees are arranged in radii diverging from three centres, and affording extensive and beautiful walks and rides such as are not equalled anywhere in the Lowlands. The Holly hedges, though now largely decayed, were once the pride of Tynninghame; they extended to about 9,000ft in length, were 10ft or 11ft broad at the base, and had a height of 15ft to upwards of 20ft. They are arranged in double rows, fringing very spacious walks and avenues. Like very many other gardens during the later decades of the eighteenth century, Tynninghame garden and ornamental pleasure grounds, with what formal stateliness they possessed, were remodelled (under the influence of the prevailing fashion) on the informal or landscape gardening style so ardently practised by Kent, Brown, Repton, Wheatley, and Price, the renowned members of that school of reform. The present vegetable and fruit garden, which includes the flower borders figured on these pages, was formed in 1760. These vegetable and fruit quarters lie westward from the house, and are separated by "The Wilderness" (another feature of gardens that owes its introduction to such artists as those I have just named), and by a suitable belt of trees and ornamental shrubs. Turning to the view of the house, the handsome terrace with low sand-



Phot. by

Gladioli and Galtonias in border.

L. de Binning

stone balustrade and the pretty geometric flower garden with beds laid out in smoothly kept grass, is to be seen. Away to the right-hand side the mown lawns merge off into the wide rolling park and to the Tyne—

That, stirred with languid pulses of the oar,
Waves all its lazy Lilies, and creeps on,
Barge laden, to three arches of a bridge.
The fields between are dewy fresh, browsed by deep udder'd kine,
And all about, the large Lime feathers low.
The Lime, a summer home of murmurous wings.

These mellifluous lines are part of Tennyson's ideal picture, meet to be the home of his poetic love Rose, the Gardener's Daughter, and they aptly illustrate the immediate environs of Tynninghame House. The presence of Ivy-covered tree stumps, out from among which the flowers in their seasons peep, and of beds of Pampas Grass, with its beautiful plumes in suitable parts of the extremities of some of these lawns, furnishes features that greatly enhance the gardenesque character of the area. Coming westward across the formal flower garden, the beds are laid out in grass and filled with Begonias, Celcias crested and plumose, and with floriferous Fuchsias, Celsia cretica, Cordylines, Lobelias, Pelargoniums, and a variety of plants beautiful in form and attractive in flower. All are neatly trimmed, for are they not just under the eyes of the noble tenants of the handsome residence? A narrow border extending 80yds in length is devoted to a remarkable line of standard Fuchsias (variety Royal Standard), and which feature, Mr. Brotherston informed me, is specially pleasing to Lord Haddington. The Earl also favours old-fashioned Marigolds, Malmaison and border Carnations, Roses, Hollyhocks, Sweet Peas, Lily of the Valley, and Violets. Up on the terrace walk, as the illustration again will show, are the Portugal Laurels already noticed. The Sweet Bay is the more usual subject for tub culture and in such a place; but the Laurels are quite in keeping with the dignity of their surroundings. By the path that meanders to the garden proper the pedestrian passes through "The Wilderness," of which I previously had a word to say. I observe that Loudon defines the term wilderness as applied in such instances as this, to mean any portion of the



Photo by

Phloxes, Pentstemons, and Hollyhocks at end of the Rose-walk.

Lady Binning

garden where the disposition of the walks are convoluted,licated, or otherwise rendered intricate and separated by hedges or shrubbery. At Tynninghame "The Wilderness" would not quite conform to such description, for it is altogether a "free-and-easy" portion of the ornamental grounds, where

The pale Primroses die unmarried,
Ere they can behold bright Phoebus in his strength;

while beneath the trees here, and carpeting all the surface of the ground, are tens of thousands of coloured Primroses and other spring flowers that also die ere Phoebus warms the earth. Daffodils, Crocuses, Snowdrops, and Squills mingle their flowers of varied chastity in delightful charm. Later in the procession of the months "the bees explore the Ferglove's speckled bell," and the fragrance of the fresh blown Musk Rose—"the sweetest flower wild Nature yields"—wafted on the warmer airs in the gloaming of a summer's evening, must make "The Wilderness" (or labyrinth) a Don Juan's paradise. Near by lies the bowling green, 1 acre in extent. Though no photographic illustration is here furnished, the scene around this bowling green lends itself to splendid pictorial effect, for crowding closely in on all sides are some of those big and handsome trees which I mentioned earlier, with masses of foliage on which the light and shade effects play transiently. The bowling green can be traced back for two hundred years, which is interesting, as throwing a sidelight on the recreations of gentlemen in these still uncertain times, when "Pretenders" for a Crown had yet to send the burning torch throughout highland and lowland, and battle hordes with fell intent had still their violent deeds to do. But, again, we can say, "Old things have passed away, all things are new." We know not now the vengeful civil strife.

Without the stout enclosing walks of the kitchen and fruit garden are the shrubberies, which in their season yield that which satisfies the eye and the mind reflective—the sprouting bud, the flower, the fruit, the autumn "fall." In a carefully sheltered western border there is quite a large assortment of the choicer shrubs such as one usually associates with the gardens in southerly latitudes. Instigated by Lord Binning—the Earl's

eldest son, who is reputedly a keen arboriculturist—the chief of the gardeners at Tynninghame (our much-esteemed friend Mr. R. P. Brotherston) has been led to experiment with, and to prove the capabilities and characteristics of many of the finer shrubby Spiræas, Cornus Späthi aurea, Gleditschia horrida, Paulownia imperialis, Piptanthus nepalensis, Vitis Coignetiae, Elæagnus macrophyllus, Parotia persica, Philadelphus in var., Diervillas, Clerodendron trichotomum, Nandina domestica, Cæsalpinia japonica, and other shrubs and plants of a like nature,

the species or varieties of which are by no means common in Scottish, or even English, gardens.

Nandina domestica, for instance, is grown under glass at Kew. The introduction of the Bamboo element in connection with a little bog garden is highly commendable. At the Royal Botanic Garden, Edinburgh, a considerable collection is grown. And this long western belt just noticed brings us to the arched Apple walk, the eastern half of which is shown on page 231. This umbrageous walk is 144yds long and quite straight. The only variety of Apple employed is that prolific bearer Keswick Codlin. The arch system of training so useful a fruiting tree as the Apple is one that has a wealth of good points to commend it, and few, if any, to detract from its adoption. This Apple arch was one of the prettiest and most pleasurable features of the many I so briefly enjoyed at this East Lothian estate. Half way along, a gateway, dated 1666, admits entrance to the walled garden at the south end of the main mixed borders. Near the eastern end of the Apple walk is Mr. Brotherston's house and the young gardeners' bothy, while in the same direction are a number of small glass houses and pits. In the kitchen and fruit garden there are some broad and well-filled flower borders, with central and cross walks beautifully laid with elastic green turf. And at the intersection of the cross flower borders there stands a little fountain whose waters in summer time spring, as Lowell sings:

Into the sunshine, full of the light,
Leaping and flashing from morn till night.
Ever in motion, blithesome and cheery,
Still climbing heavenward, never aweary.
Full of a nature nothing can tame;
Charged every moment, ever the same.

Surely the beauty of water in any form, in gardens, is not fully realised? The lower figure on page 228 represents the scene I refer to. A number of symmetrical Irish Yews stand, sentinel-like, in a wide-apart circle about the fountain. Could anything be more in keeping with the true character of a garden than broad walks of velvety turf, adorned with the subduing dignity of the dark and silent Yews, against which the ripple and sparkle of the beautiful "fountainette" stands up like an ever-living entity? Mind you, these cross grass walks and the fountain

are within the walls of the kitchen and fruit garden. Of the many gardens I have had the privilege to visit, only two come to mind as being enhanced by such walks within walled area. Is this feature one of the survivals from the period of formal garden design? How comfortable to the feet, and what an effect of grand luxuriance a grass walk gives! One has little patience with those who object on the grounds that grass walks necessitate incessant care both in summer and winter, and that during rains or in the resting season of Nature they are retentively damp. Properly made in the first instance, they are perhaps more easy to maintain in order after than any other kind of walks, and to my mind, as already expressed, they are *prima facie* in appearance and for enjoyment. May many more be laid this Spring!

The garden lies facing the sun, forming a parallelogram. Near by the south wall aspect are the glass ranges, led up to by the central walk figured on page 228, and these comprise Muscat and other vineries, peacheries, and a handsome dome-shaped central conservatory or greenhouse, which stands well up on a terrace and reached by a flight of steps. From the front of this greenhouse one enjoys a prospect of the larger part of the walled-in garden. The Vines are all very old. Of these, one deserves special notice, that being the original plant of Tynninghame Muscat, introduced about the middle of the eighteenth century. The varieties of Peaches almost solely relied on are Thames Bank—a favourite with the Earl—and Stirling Castle, a patronymic representing many excellencies for the member of this genus. Between the vinery and Peach house the æsthetic again compels attention in the presence of profuse growths and flowers of that very serviceable hardy Fuchsia named Riccartoni; here also are leaden figures of "Orpheus" and "Tragedy," dated 1611. Between these houses and the conservatory are a series of Rose beds planted in 1900 with the best free-flowering Hybrid Teas—one sort to each bed. A specially interesting spot, close to one of the glass houses, and named Lady Binning's Garden, represents a "Knotte" (or "Knot"), so common in Hill's time, from whose "Profitable Arte of Gardening" (1574) the plan was taken. It is only a small plot, and is compactly filled with the medicinal

herbs that this sixteenth century Londoner mentions in the book just named, "wherein are set forth divers Herbes, Knottes, and Mazes, cunningly handled for the beautifying of Gardens; also the Physicke of eche Herbe, &c." Thus it would seem that the superintendent of the gardens here, and who is envied by many for the knowledge of old garden authors and historic lore he carries with him, puts his assimilated ideas into material form and practice—a highly commendable rule, and one affording excellent mental stimulus. Further in keeping with the delightful old-world mein of Tynninghame garden are its hedges of robust

Sweet Briar, its arches and trellises garlanded with Rambler and climbing Roses and Honeysuckle. Of the garden here one can truthfully chant, "It is Roses, Roses, Roses all the way." The Crimson Rambler entwines with Aimée Vibert, most profuse of whites, and Longworth Rambler jostles Reine Marie de Wurtemberg on the one side and Allister Stella Gray on the other. The Ayrshires, the Boursault, the Musk, and the Cabbage Roses flourish rampantly.

In a' their crimson glory spread,
And drooping rich the dewy head,
They scent the early morning.

Nor must one omit to mention the grandeur of a lengthened Rose border in the same quarter of the garden, composed of old Roses—the "Velvets," Rosa sulphurea, Maiden's Blush, Prince Charlie, old Damasks, and others.

It is interesting to observe that in front of a low span-roofed pit outside the garden walls the Noisette Rose, William Allen Richardson, bears abundance of its beautiful flowers and grows well. At a nursery near Granton, Edinburgh, a plant of the same is likewise to be seen out of doors, and on a cottage front in Perthshire another instance could be cited. Scratched on one of the panes of glass in a Palm house there is this entry: "Sow'd Cucumber for the hothouse, September 2, 1789." The pane was preserved from the original structure, which was taken down twenty years ago. Small houses are also devoted to Ferns, Carnations, Orchids, Amaryllis (or Hippeastrums), Tuberoses, and to the production of Tomatoes and Melons. Beds of Cloves and Pinks, lines of Sweet Peas, borders with clumps of Hollyhocks, Galtonias, Chrysanthemums, Gladioli, Phloxes, Pentstemons, Tritonias (Montbretias), Day Lilies, Eryngiums, Aquilegias, Salpiglossis, named Carnations (of which there are a splendid collection); also Salvias, Michaelmas Daisies, and a galaxy of such other handsome flowers (not forgetting certain Yellow Borders running east and west from the fountain, and so called because the majority of the flowers in them are yellow, this being the desire of the Ladies Baillie Hamilton) constitute a garden rich in its resources. The entrance to the Yellow Borders



Photo by

Apple-walk: eastern half.

Lady Binning.

is by the gateway, with handsome wrought-iron gates, shown on page 232.

Lastly there are the fruit trees, in considerable variety. Apples do very well, and I will name the following as seen in good condition and which were well spoken of: Early Julyan, Keswick Codlin, Warner's King, Maltster, Lane's Prince Albert, Tower of Glammis, Bramley's Seedling, Northern Greening, Mère de Ménage, Alfriston, Striped Beefing, Duchess of Oldenburg, Lord Grosvenor, Ecklinville Seedling, Rymer, Gascoigne's Scarlet, Nelson Codlin, Betty Geeson, Golden Noble, and Waltham Abbey Seedling. Tried dessert kinds are: Margaret, Irish Peach, Devonshire Quarrenden, Mr. Gladstone, Worcester Pearmain, King of the Pippins, Ribston Pippin, Cox's Orange Pippin, Blenheim Orange, Duke of Devonshire, Beauty of Kent, and a few more, generally small-fruited sorts. Continuing, it

Duchess, Duchesse d'Angoulême, Beurré d'Amanlis, Beurré Superfin, Marie Louise, Hacon's Incomparable, Thompson's, Emile d'Heyst, Passe Colmar, Beurré Bachelier, Van Mons Léon le Clerc (almost invariably cooked), Winter Nelis, Bergamotte Esperen, Doyenné du Comice, Ne Plus Meuris, Easter Beurré, Beurré Diel, Glou Morceau (which fine Pear is also nearly always cooked), Calebasse, and Verulaine (or Gendebien) are the sorts chiefly cultivated for stewing. The only Cherry that succeeds is the Morello. Of "small fruits" the only Raspberry given room to is Superlative. Strawberries have been tried in dozens of kinds, but it is found that Vicomtesse Hericart de Thury (syn. Garibaldi), Keen's Seedling, Royal Sovereign (as an annual), President, and Elton Pine are the most satisfactory. The soil is, however, not suited to the fruit. A large quantity of Wineberries are grown to succeed Raspberries, and the



Photo by

Lady Binning

Gateway to walled-garden, overhung with Vines.

may be serviceable to other chroniclers to have the varietal names of Apricots, thus: Angoumois, La Delicieuse, Shipley, Breda, D'Alsace, Orange, Hemskirk, and Powell's Late. The best Plums include Rivers' Early, The Czar, White Bullace, Kirke's Black, Emperor, Victoria, Pond's Seedling, Purple Drop, Reine Claude de Bavay, Washington, Jefferson's, Magnum Bonum (white and red), Monarch, and Coe's Golden Drop. Peaches do not do well owing to the cold east winds that blow, one may say, straight from the Ural Mountains across the flat plains of middle Russia, the heathly wastes of northern Germany, over the North Sea to strike upon the East of Scotland with keen and cruel effect. Small Peach trees, easy to replace, are grown of Early Beatrice, Early Alexander, Royal George, and Nectarines Lord Napier, Pineapple, and Humboldt. Pears are represented by Clapp's Favourite, Williams' Ecn Chrêien (best of standards), Souvenir du Congrès (mostly cooked), Marguerite Marillat, Dr. Jules Guyet (which is always cooked), Dr. Hogg, Fondante d'Automne, Louise Bonne of Jersey, Pitmaston

Parsley-leaved Bramble also; while a stock of Loganberries is being propagated to yield fruits as an additional concomitant for the table.

And now, after these cumbrous, but useful, lists have been enumerated, may a short biography of Mr. Brotherston be appended? Then let him tell his story in his own delightful vein.

Mr. R. P. Brotherston.

"My career? It has been quite an uneventful one. A not over-robust childhood, and a longer than usual term at the Parish School under a clever dominie of the old type, immortalised by Ian Maclaren, was followed by initiation into the mysteries of gardening under the late William Thom, Lady Eleanor Balfour's gardener, at Newton Don; lady and gardener alike, enthusiasts. In those days young gardeners spent much of their odd time in plant training, Grape thinning, grafting, budding, &c., which was varied in my case by botanising the

district for many miles around, one trip extending as far as Cheviot, twenty miles off—the distance walked both ways. At Sir Hew Dalrymple's, near North Berwick, where I spent a few months, I inspected, with a young gardener of like proclivities with myself, a good bit of country, and especially along the coast, where *Geranium sanguineum*, Viper's Bugloss, Sea Pinks, Wallflower (on Tantallon Castle), sheets of Thyme of all colours, white to crimson, were revelations of Nature's handiwork. *Botrychium Lunaria*, near Dirlston, was our rarest find. I believe young gardeners no longer make a study of field botany (?). But if for no other reason than the habit of close observation it engenders, and which is essential in determining species closely alike, the time thus engaged would be well spent.

"I had one or two offers to go South, and accepted one from Mr. Douglas (now of Edenside Nurseries, Bookham) to go to Loxford Hall, and there I stayed nearly five years. Thence I went to the late Sir J. Brunlees, Argyle Lodge, Wimbledon, and while there I was admitted to the weekly gatherings of gardeners at Sir Henry Peek's, where Mr. Henderson was gardener. These were very enjoyable. When Mr. Lees left Tynningham, in 1874, I was recommended to succeed him, and there I have been since. During that period English gardening has been almost revolutionised, and I suppose gardeners have undergone as great a change. It may not be without interest to say that I made the acquaintance of 'Our Journal' when quite a boy, my brother having the privilege to obtain it from the Rev. Mr. Broomfield, of Sprouston, a contributor in those days to 'The Cottage Gardener,' as the Journal was still called. 'Garden Gossip,' 'The Scottish Gardener,' and 'The Florist and Pomologist' were other journals of that period which came within my ken. When yet an apprentice I commenced taking the Journal, so I may class myself an 'Old Reader!' I should say for over a quarter of a century I have also been contributing a paper now and again to the Journal, but previous to Dr. Hogg requesting me to send an occasional paper, a few from 'The Gardener' (a Scottish publication) had already been reprinted. It is a great pleasure to be able to say that, notwithstanding the constant changes brought about by passing time, the Journal still retains the vigour of youth, and maintains its position as a high-class practical gardening medium."

And now to Mr. Brotherston and to the friends I met at the manor of the ham, in(g) Tyne—

Fare thee well! and if for ever;
Still for ever, fare thee well.

WANDERING WILLIE.

Forty Years a Reader.

On the occasion of the issue of this Spring Number, we are pleased to introduce to our multiple and widely scattered readers an old reader—in a double sense—and one whose long connection with the staff of our old Journal gives him a peculiar



Mr. R. P. Brotherston.



Mr. S. H. Edwards.

interest. Mr. Edwards has been proof-reader for "The Journal" during forty-three years. His own letter, which follows, describes some of the changes and incidents that have studded the course of the two last generations, and runs as follows:—"My first acquaintance with 'The Cottage Gardener' was on September 15, 1857, when I was asked to become proof-reader on the staff. At that time 'The Cottage Gardener' (now known as 'The Journal of Horticulture') was composed in The Square, at Winchester. Thither I went on November 23, 1857, and worked for eleven weeks, but returned to London in 1858. I was, however, requested to go back to Winchester and resume my position there, which I did on February 5, 1859, and since that time I have never ceased to discharge my duties as 'reader' for the Journal. Primarily, four of us were engaged, I being the youngest, but, after forty-three years' sojourn, am very much the oldest, the 'common enemy' having promoted me doyen of 'the chapel.'

"When at Winchester I enjoyed the possession of a garden in Alfred Place, which lay at the back of what is said to be the palace of King Alfred the Great, and is one of the objects of historical interest in which the old capital of England abounds. I used to look after the kitchen garden, but the flower department was under the control of 'The Missus.' I really cannot remember all of the flowers we grew, but there were long lines of Hepaticas (or Anemone Hepatica, as they are now called), double *Convolvulus*, climbing Roses, and many border plants. Upon the question of the cultivation of the garden there were occasionally differences of opinion, in which 'my commanding officer' told me that She would have none of my 'Cottage Gardening.' And, indeed, she succeeded in making a very pretty garden with the friendly advice of the paper. I wish, indeed, she were here to see this Spring Number, but unhappily she has preceded me to that Land of Rest where—

Everlasting spring abides,
And never-withering flowers.

"What sort of a garden I had would be better described by 'A British Rustic,' whose description of the Rectory Garden lately on page 168 must have given much pleasure to many. When at Winchester I was in the habit of studying vegetable anatomy, which I considered it necessary for me to know, and I have seen with curious interest the circulation of the sap in plants. In 1899 I obtained a certificate for proficiency in the knowledge of chemistry.

"But the time at last came to bid farewell to the garden. One day in 1860 we finally parted with Winchester and its pleasant associations, and started at work the next day in London. The first publishing office of 'The Cottage Gardener and Journal of Horticulture' was at 161, Fleet Street, now the publishing office of 'The Methodist Recorder.' We, the printing staff, were located behind at Johnson's Court, which has since been rebuilt, but it was at that time in an extremely antiquated and unattractive condition.

"It was about this time that the proprietors decided to alter the name of the paper from that of 'Cottage Gardener' to 'The Journal of Horticulture, Cottage Gardener, and Country Gentleman'; shortly after which another move was made, and the printing and publishing offices were settled at 171, Fleet Street, where they remained for thirty-five years.

"During this period, while in the discharge of my duties, I frequently came into contact with some contributors of the Journal whose names in the sphere of horticultural literature will long be memorial. There was Robert Fish, who struck me as being not only a practical writer, but a thoroughly honest man. Then again, there was 'Wiltshire Rector,' who entertained me with pleasant conversation about his church, his parish, and kindred matters, on which he wrote so charmingly in our pages. I had also business connections with Mr. Woodbury, the 'Devonshire Bee-keeper,' who contributed then to the Journal; and good old Donald Beaton I remember well. His style was quite peculiar, and I recall how he 'wrote up' the *Spergula pilifera*, which I never see mentioned now." [Change still doth reign, Mr. Edwards; all is change. The beautiful *Spergula pilifera* ever and anon appears in these pages, but, like "The Cottage Gardener," it changed names, and now the botanists call it *Sagina subulata*.—Ed.] "The oldest surviving writer of the galaxy of those days is Mr. Robert Fenn, whose signature of 'Upwards and Onwards' was very familiar to me. His recent sparse contributions show that time still toils after him in vain. Years have apparently made no difference in his handwriting, or in his fine, nervous, vigorous style, which are just the same as they were forty years ago.

"During the time the paper was at Winchester it was supervised by Mr. G. W. Johnson, the original projector of it in 1848. He resided there, and discharged the functions of country editor, whilst Dr. Hogg performed those of town editor, and from time to time visited Winchester for the purposes of consulting with his partner. When we removed to London Mr. Johnson came up, and made his home in the Metropolis. The association of Mr. Johnson and Dr. Hogg lasted for close upon twenty years from the time of our arrival in London, and only ended in 1879, when failing intellectual powers necessitated the retirement of the elder partner. He, however, continued to enjoy fair physical health till about the time of his decease in the year 1886.

"It was shortly after this that I recollect the institution of the first sub-editor, Charles Norval Thompson. He was a son of the well-known superintendent of the Royal Horticultural Society's garden at Chiswick, and author of 'Thompson's Gardener's Assistant.' He was well described in Dickens's character of Tom Pinch, having the same genial and hearty disposition. His unexpected decease while still in the prime of life on December 23, 1874, cast a gloom over us all.

"Looking back on those past forty years, what wonderful changes we note. Let anyone take down the volumes of 'The Cottage Gardener' of, say, 1857 or 1858, and compare them with 'The Journal of Horticulture' of the present day. How conspicuous is the difference—both in the size and number of pages, in the illustrations and the general aspect. These mark the enormous advance which has taken place, not perhaps in the character of the literature as in the external matters and technique. At the time to which I have alluded there were only two gardening papers in existence, namely, 'The Gardeners' Chronicle' and 'The Cottage Gardener.' But in 1861 Mr. Shirley Hibberd commenced his enterprise by publishing as a weekly periodical 'The Gardener's Magazine.' Some ten years later appeared 'The Garden,' which was founded by Mr. William Robinson, a former contributor to the columns of the Journal. Since then there has blossomed a host of juvenile horticultural periodicals whose names are past my power to recollect.

"And now permit me one word more. Reviewing the past forty-three years since my connection with the Journal, as one scene after another passes before me like a panorama, it seems as though a Power were directing my steps. I see rising before me one event after another, very trifling, but they led to important results, as many trifling events do. Some people would call them remarkable coincidences; I call them remarkable providences. Yes, that Power has protected me, guided me, and provided for me and mine, and His promise is that He will do so to the end. 'Even to your old age I am He, and even to your hoar hairs will I carry you.'

I have been upheld till now;
Who could hold me up but Thou?

"How appropriate are Cardinal Newman's lines:—

So long Thy power hath blest me, sure it still
Will lead me on
O'er moor and fen, o'er crag and torrent, till
The night is gone;
And in the morn those angel faces smile
Which I have loved long since and lost awhile.

"And now—'A few more years shall roll'—perhaps very few—

A few more years shall roll
A few more seasons come,

and it will be my turn to pass through the Valley of the Shadow of Death, but I will fear no evil, for ONE whom I have loved and served will be with me, and I shall be reunited to those dear ones who have gone before, and to the 'commanding officer.' May we all meet around that Throne where sorrow and sighing shall flee away, and partings be known no more."

Some Drolleries of Plant Names.

By J. R. S. Clifford.

NUMEROUS are the strange or comical names which have been given to wild and garden flowers, often subjects of wonderment to those who have not heard them explained. Some, indeed, are perplexing, and may have more than one meaning, if we investigate them. According to the poet Milton, Eve was the first individual who gave names to plants, and even made a classification of those of Paradise into tribes. During the Middle Ages the monks were responsible for some plant names, plenty suggested by the Virgin Mary, but few, apparently, by Eve. True, there is one of the Saxifrages, *S. hypnoides*, which has mossy clumps and small white blooms, that yet bears the name of Eve's Cushion. To more than one of the Thrifts, certainly to our familiar *Armeria vulgaris*, belongs the name of "Cushion," which may also possibly have been linked with Eve. The spreading tufts make it appropriate. "Our Lady," or "Lady" simply figure in many plant names. Some think a few of the latter may allude to Eve, who was much more spoken of by our ancestors than she is at the present time, and they would doubtless regard her as the first lady.

The North Kent children, amongst whom I live, are no great observers of Nature generally, nor of plants, specially, but most will readily recognise the inconspicuous Shepherd's Purse, and call it "Pick Your Mother's Pocket." The names connect, but shepherds did not carry cash usually, and the pod in shape resembled his bag or wallet which held food for the day, I think. Juvenile morality associates a purse or pocket with the idea of stealing something from it, not unfrequently. But the plant has another significance in some western districts. A child will hold out on its palm one of the pods, and, asking a companion to strike it, exclaim: "There, you've broken your mother's heart." A bygone fancy has likened its form to that of the important organ. Belonging to the same tribe, larger, and more pungent, is the Hedge Garlic, also called Jack-by-the-Hedge. (One book upon plants I came upon gave as a name Robin-run-the-Hedge. This belongs rather to some species of Bedstraw, or *Galium*.) But why should it be Jack? when as a prefix to various objects the word is expressive of size, and must refer here to the largeness of the plant leaves. We have more names for it—Treacle Mustard, too, and Sauce Alone, descriptive of old uses. The first tells of its combination in a mixture known as treacle; an electuary, we say now. The second praises it as a relish. We would consider it a sauce best left alone. In this month people looked out for the young plants, as indicating the approach of spring, and also for the early growth of the Lady's Smock or Cuckoo Flower, though this would not open till the time when the bird arrives from abroad. It is Gowky in Devonshire, to the puzzling of visitors ignorant that such is the local name for the cuckoo. Rather a funny idea is it of some people that *Cardamine pratensis* was Lady's Smock, because it grew upon meadows where undergarments were laid to bleach. Probably, it was a comparison suggested by the silvery white or pale like flowers, for the familiar *Stitchwort* of roadsides was called White Petticoat.

Numerous, often amusing, are the plant names which connect with articles of attire or of the toilet. Sometimes the reason is not obvious. Bell-like flowers hint a resemblance to various things; so does the garden Turk's-cap Lily and others of that tribe. The Campanulas, Convolvuluses, the common Cowslip, and the much debated Foxglove—Fairies or Foxes. This plant might suggest a glove, or the finger of one. Probably the oldest were like socks, and had no fingers. Then it was the Witches' Thimble, too, and in some counties the plant has still the odd name of Cowslop. Yet another name of the West is Poppy. Boys blow into a partly expanded Foxglove flower, and with a blow make it produce a pop. One of the Campanulas was the Witch's Cap, and a *Convolvulus* bore the title of Old Man's Cap. But the names mostly favour feminine articles, showing that our forefathers inclined to associate women with plants. There is one or more species of Campion, however, called Bachelor's Button; and the Ribbon Grass of our gardens is the Gardener's Garters. But Robin or Robert is part of the name of several plants, and evidently was a very frequent man's name centuries ago. If it had any special meaning applied to a plant it might denote activity or vigour. One of our Crowfoots (*Ranunculus arvensis*) has curious twisted carpels, which somebody called Satan's Comb; and someone else his Chariot Wheels, supposing that his Infernal Majesty found a conveyance useful at times.

Mexico produces a splendid *Ipomæa*, with azure blossoms several inches across, growing so close as to hide the leaves. This is Lady's Mantle; and another plant so called is our native *Alchemilla*, of three species. There the name was given on account of the way in which the leaves are plaited before expansion. Some species of *Genista*, from the shape of its pods, was called the Ladies' Slipper, and when it first came to England some gave the *Fuchsia* the name of Ladies' Eardrop, because of

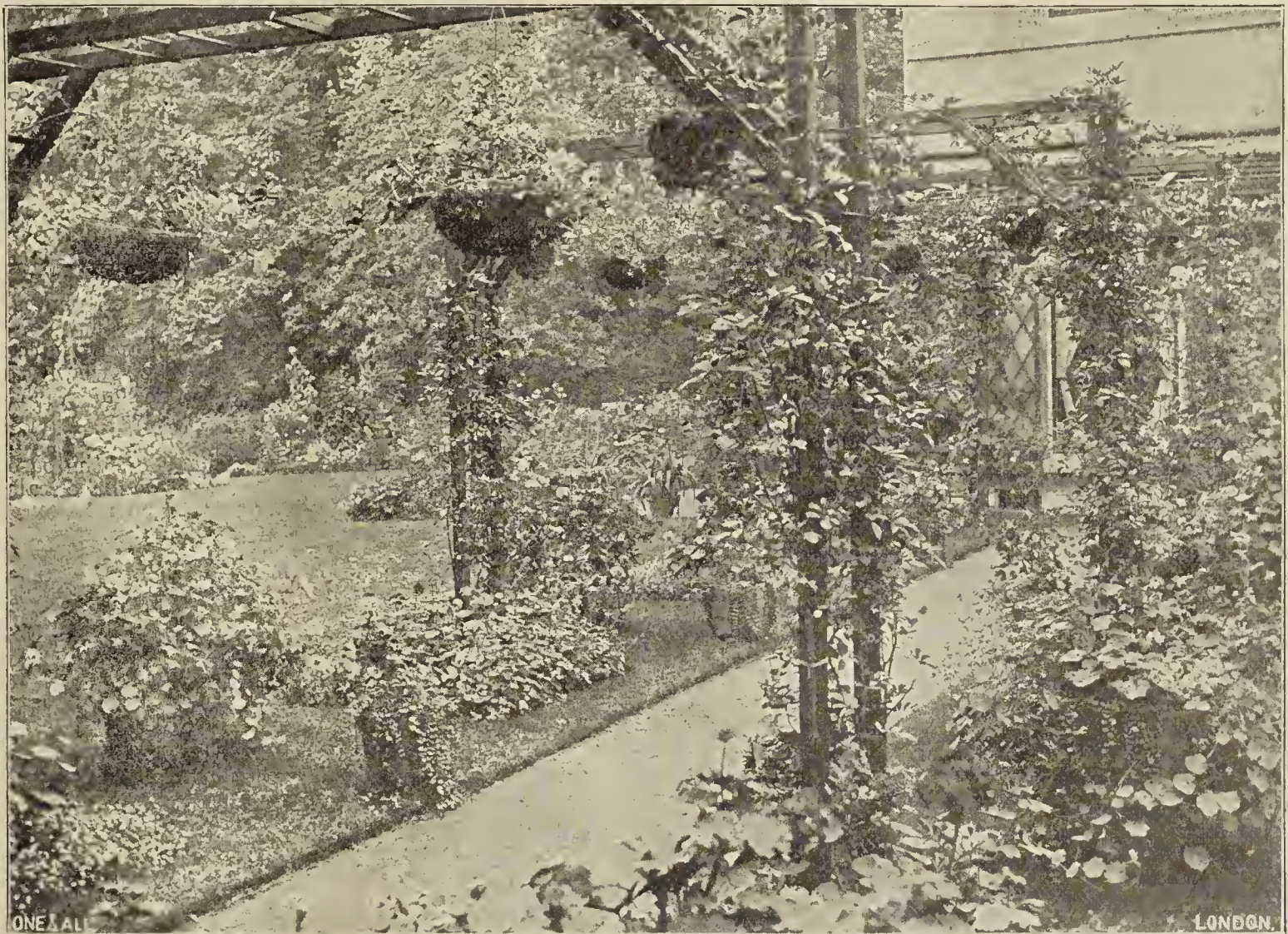
its graceful drooping flowers. The hollowed tops of the Teasel represented a ladies' basin, the beaked Scandix was like her comb, and a mirror seemed to show in the bright flowers of a Campanula. One botanist states that *Primula farinosa* in the North is sometimes Ladies' Candlestick, as well as Bird's Eye. To the wild Bryony is said to belong also the name of Ladies' Seal, because it had a rootstock shaped like a seal, though some declare that the Solomon's Seal (*Polygonatum multiflorum*) was the Ladies' Seal too, from the peculiar marks it exhibits on the root. Curious to tell, another name for this was David's Harp. The flowerstalk, with its pendent blossoms, was fancied to resemble the monkish drawing of King David over his instrument. Yet, again, the Galiums were Ladies' Bedstraws, presumably owing to the use of this soft creeper for couches or beds, though men lay upon hard reeds and rushes. To the Scottish schoolboy it is Scratchweed, or Blood-tongue, and he draws the sharp edge of the leaf over his companion's tongue to bring blood.

Several plants have got names from their connection with

leaves, are scraped over each other to produce a squeaking sound. "Curl-doddy" is the local name of the Field Scabious in some places; the heads are compared to the curly pate of a boy. Irish children call the Wall Pellitory by the slightly altered name of "Peniterry," and a schoolboy in danger of punishment lays hold of it, crying:

"Peniterry, peniterry, that grows by the wall,
Save me from a whipping, or I'll pull you, roots and all."

Most people know that the name Dandelion means "Lion's Tooth." It occurs elsewhere than in Britain, and seems puzzling. Mr. Friend is not satisfied with the explanation that it arose from the form of the leaves or the flower's likeness to the golden teeth of the heraldic lion; he takes it that as a medicine this plant was compared to the lion's tooth. This excellent botanist tells us he was perplexed by the name Crazy Flower, occasionally given to the Buttercup, until some Devonshire people



A Vicar's Garden—seven miles from London. (See note on page 241.)

mimic contests or children's pastimes. About London suburbs and elsewhere young folks call nuts of Horse Chestnuts "conkers." Though spelt so now, it arose from the old game in which boys struck them against each other, repeating the nonsense rhyme, "O, Clonker, my first conquer," and the word implying victory was applied to the nut itself. Hazel nuts are said to have been also used in such combats. The Ribwort Plantain (*P. lanceolata*) had also the name of Jack Straw and Cocks, from the children's game of fighting the stems. Sometimes they arranged them in fifties for this purpose. Some Scotch youngsters call the Wood Angelica "ait-skeeters," using its hollow stems like pea-shooters, the missiles being mostly Oats. About Lincolnshire the Butterbur has the name of "Boghorn," its stems serving for horns or trumpets, and in Yorkshire the semi-aquatic *Scrophularia* is popularly "Fiddlewood;" the stems, when stripped of their

informed him that smelling this flower might cause madness. Many yellow flowers have been called Buttercups or Marigolds. Apparently the Marsh Marigold (*Caltha palustris*) had its odd designation of "Drunkard" because it is partial to water. Growing together on a field, Buttercups and Marigolds have been styled Publicans and Sinners. I presume that the Marigolds are publicans. But it is strange that one wild Valerian should be the Drunken Sailor, also Bouncing Bess. This we may explain by the "bounce" of the plant when a breeze is blowing. A variety of names were given to plants taken from animals, not always recognisable. Bugloss, for instance, a rough-leaved species, being compared to the tongue of an ox. Few plants are richer in odd names than the Arum, which is Parson and Clerk, Parson in the Pulpit, Cows and Calves, Lords and Ladies, Wakerobin, and Adder's Food.—J. R. S. C.



Earth's Many Voices.

I do not know who originated that sentence, "Earth's many voices"; it is a very popular one, and therefore I feel very ignorant. It is the stock quotation which is so hard to locate. Of course, you might get out of the difficulty by suggesting Shakespeare; but that won't do always. I wonder if anyone has ever tried to form an estimate of the number of voices? The task would be difficult, if not impossible. We are all so busy nowadays we have time to hear nothing but the voice of the thunder of Sinai; the "still small voice" is drowned in the din of life. I am sure we should be better men and women if only we could get away at times, and have a quiet half-hour with Nature.

I do not know anything more calculated to relieve harassed brain and body than the soothing influences of the peaceful country. It may not be that the country best available is beautiful; we cannot look for that everywhere, but the deadest level or the bleakest moor has a beauty of its own;—anywhere away from man and his works. Even the best of town gardens lack something—there is the distant echo of the streets, the ever-to-be-found smut, the sense of enclosure and limited space. I do not deny that there, on a spring morning, are many signs of quickening life; but there are too many traces of man about. I had rather look for the first Daisy in a bye-lane, or the Cowslip on the bank in the pasture, or the Marsh Marigold in the muddy bottom. You expect to find certain flowers in the garden; there is no element of surprise there, whereas in a country walk you do not know what you may come across. Vivid colours are rare in early spring, unless I make an exception of the Daffodil; but its yellow is hardly vivid. The Hyacinths can't rank as spring flowers; they promise so long before they fulfil. The prettiest sight I ever see is a wood of Oak carpeted with that fair Windflower, the Anemone. The foliage is as graceful as the flower, and it has such a quaint woodland scent. Generally where it grows will be found the Dog Violet, the contrast of lavender and delicate green. Do you like the rustle of the dry leaves at your feet? the snap of the rotten branch on which you tread partially hidden by moss? A wood on a hillside, sloping towards the sun, with a tiny stream as a boundary; a wood where wild pigeons build, and make endless echo with their melancholy "coo." I say melancholy, but it is not really so. It must be the vain repetition that haunts one. Happy are those people who own, or live near, a rookery. You can never be dull with those busy house-builders about. They are thievish and quarrelsome and noisy, but full of life and energy.

All this winter the missel thrush or Charley cock has fed on my Holly berries. He and his mate—to-day early I found her dead, alas!—are never long away. He will pay me for those berries shortly; and so will the bold blackbird remember the debt he owes for my rosy Cherries that fed him and his family last July. I do not think the birds will forget the winter crumbs and the dish of water when all their sources of drink were frozen hard. The creepers that reached to the sill last year now gently tap on the window-pane, and the Ivy has covered another section of the dull, dead wall. Since last year the Weeping Ash has encroached on the lawn, and the evergreens in the far border have put out fresh branches. In January I noticed there were visibly green buds on the Clematis that makes the porch a purple glory, and the first bit of sky seeks the earth when the little Periwinkle opens. It is good to be alive; such a joy to think that winter is behind us. Mind, I don't say we have lost all cold weather; but there is hope, and the lengthening days speak of sunshine to come.

No prospects look so dark and dreary on a sunny day, and you ought not to be melancholy when the birds are all in full song. The miracle of spring fills me anew with wonder and pleasure. Wonder at the mighty deeds achieved; pleasure that I yearly participate in the spectacle. After all, when one comes to think of it, Spring is the most marvellous season of the four. January, with its black frosts and biting skies, is not a great preparation for those mild and balmy days so often vouchsafed to us in February. Winter often lingers long, and as often leaves us so suddenly; leaves us, alas! only to return, but yet the better days are such a respite! They do not brace you for the renewed cold, but they make a gleam of hope—you are led on to think of what will come, and there is nothing yet like Hope to bridge over the abyss that lies between Despair and Joy. People talk of the pleasures of winter; I have yet to find them. Give me the air warmed by the good old sun, and sweetened by budding flower and leaf. Give me the brown fields putting on their fresh green mantle. Give me the sap rising in the trees. Give me the varied, if young, life all round, and I'll give you with pleasure the winter joys!

With the spring comes need for activity. I cannot be happy unless there is work to do, and I like the work to be pressing. I can always work best at the point of the bayonet. That is not moral, I know; but one needs a bit of spur as one passes the milestones. How quickly they recur now! It seems so

short a time since last spring, and here I am again counting up my treasures. Like old songs, the old flowers please me best; it is the memory that they waken. Of every spring flower I can safely say it has a distinct location in my mind; and I can recall in which special nook of my childhood's garden certain treasures were found. I could go to the spots now; but I dare not, if I might. Strange hands make strange changes, and I could not accept with equanimity the changes I should find. Ah! this is one of the penalties of Time. But, after all, nothing can rob one of the memories. Memory is like an herb bed, full of sweets and bitters. Thank God when the sweets prevail! I found these lines the other day; a quaint old village ditty to spring. Thomas Hardy puts them into the mouth of one of his sweetest creations.

Arise! Arise! Arise!
And pick your love a posy
All o' the sweetest flowers
That in the garden grow;
The turtle dove and sma' birds
In every bough a building,
So early in the spring time
At the break of day.

—THE MISSUS.

Bacteriosis in Hyacinths

By George Abbey.

This is a destructive disease of Hyacinths, which, according to Wakker (Onderzoek der Zeitten van Hycinthen, Haarlem, 1884), has been well known in Holland for some time, and in recent years shown itself on bulbs in this country, an example of the disease as affecting Roman Hyacinth being configured, natural size, in Fig. 1 at A. It was one of several similarly diseased bulbs submitted by a correspondent, "Chelwood," to the Editor of the *Journal of Horticulture* for diagnosis, and was examined and sketched by me on January 28, 1902, when the following notable features were observed:—(1) The radical part of the bulb, Fig. 1, A, at a was rootless, and showed no signs of there having been any roots protruded in accordance with the current growth, or of their being protruded, while the base of the bulb appeared quite sound. (2) At b, issuing from the scales of the bulb was a yellow or pale brown mucus, becoming black in contact

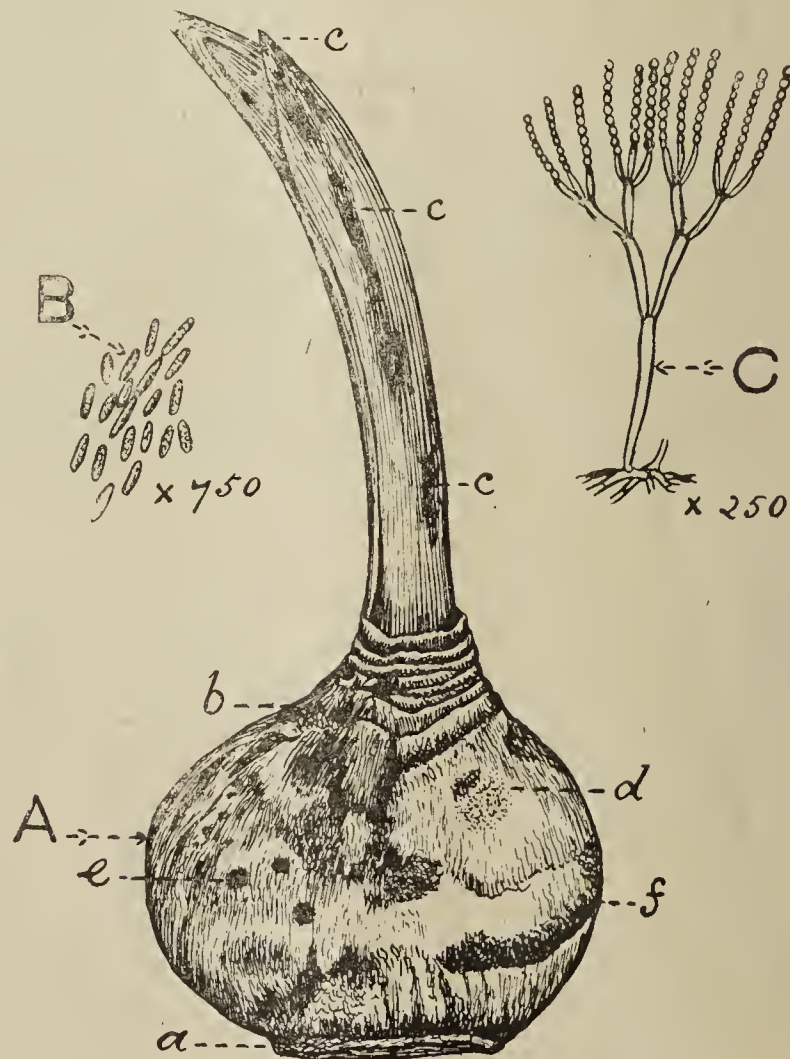


FIG. 1. ROMAN HYACINTH INFESTED WITH HYACINTH BACTERIOSIS.

A, bulb of Roman Hyacinth, natural size: a, base of bulb devoid of roots; b, point on bulb where yellow or brownish matter was oozing out; c, yellow spots on young growth; d, patch of blue mould; e, dark spots on outer scale of bulb; f, brown or blackish matter in scale of bulb.
B, bodies found in yellow mucus from points of b and c of A = *Bacterium hyacinthi*.
C, a fruiting branch of blue mould (*Penicillium glaucum*) from point d of A.

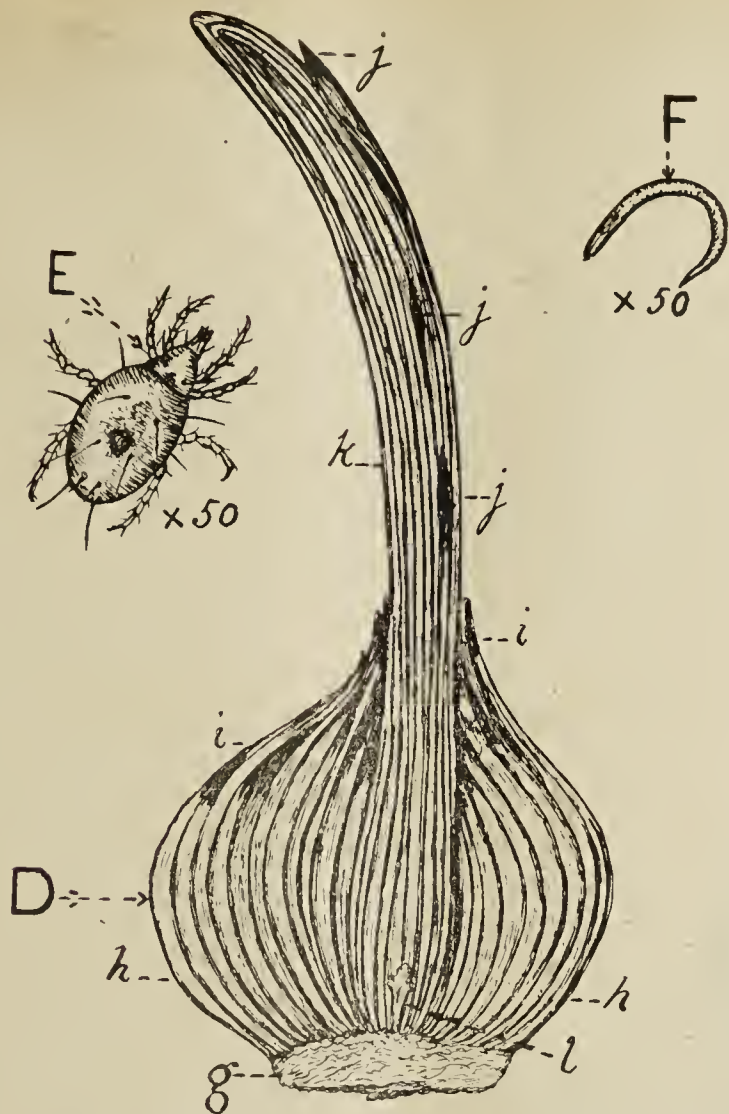


FIG. 2. VERTICAL SECTION OF ROMAN HYACINTH INFESTED WITH BACTERIOSIS.

D, vertical section of bulb and young growth, natural size: g, basal part of bulb quite sound but devoid of roots; h, lower part of bulb scales free from disease; i, diseased parts of bulb scales; j, dis-ased spots on young growth; k, growth of current year; l, flower spike of next sea on in embryonic formation.
E, root-mite, *Rhizoglyphus echinopus*, found on a scale of bulb.
F, root-stem eelworm, *Tylenchus obtusus*, found in a bit of decayed matter taken from bulb.

with the surrounding soil, and cementing this so as to adhere to the bulb. Yellow, turning to brown, spots were also present on the first leaf, shown at c. (3) A blue mould, in a roundish patch, was present at d. (4) Black spots were conspicuous on the surface of the bulb at e, and streaks of dark brown matter at f, evidently due to decay of the outer scales of the bulb.

Nothing more was discerned by the naked eye, and no organic body revealed by the aid of a pocket lens. On subjecting a portion of the yellow mucus from the point b on the bulb A to microscopic scrutiny, the bodies shown at B were revealed, and a similar yellow mucus taken from the vessels and intercellular spaces of the fundamental tissue at the points c yielded similar bodies. These micro-organisms are bacteria, known to bacteriologists as *Bacterium hyacinthi*, and as infection of healthy plants with the yellow mucilage produces the disease, are rightly regarded as cause of the disease.

The blue mould on the bulb A at d was found to be the fungus known to fungologists as *Penicillium glaucum*, commonly a saprophyte on dead and decaying parts of foliage, fruits, and roots (including bulbs). It, however, by no means leads an absolutely saprophytic mode of life, though it commonly begins as such, for it sometimes causes the decay of adjacent living tissues, and may even eat up bulbs, especially Tulips and Narcissus, being frequently associated with basal rot and central decay, by its virus breaking down living tissue, and thus preparing the way for its passage from a saprophytic to a parasitic mode of life. A fruiting branch of this very common mould, often found on the surface of jam, is shown at C.

The internal state of the bulb, shown in vertical section in Fig. 2 at D, showed a somewhat different state of affairs to that presented by the external surface. Its base, or rooting part, g, was quite sound, also the lower portion of the bulb at h. At the upper part the bulb scales were more or less decayed, some to a considerable extent, as indicated by the dark portion at i. Dark spots also were present at the point j, on the young growth of the current year. This (k) was otherwise quite healthy, and the flower spike of the coming year or season present in embryonic formation, shown at l.

So much for cursory observation. Turn we, therefore, to aided scrutiny, where a pocket lens brings into view an animal of the Arachnoidea order, family Acaridæ, sub-family Tyroglyphidæ, by name *Rhizoglyphus echinopus*, a very common pest on Hyacinth bulbs and roots of various plants. It is represented at E in the adult state, as taken from off a scale of the bulb.

A bit of the decaying portion of a bulb scale also yielded the animal shown at F, a member of the Vermes, or worms order, family Nematodea, by name *Tylenchus obtusus*, or blunt eelworm. Thus we have four micro-organisms brought to view by aid of the microscope, two vegetable: *Bacterium hyacinthi* and *Penicillium glaucum*; and two animal: Root mite (*Rhizoglyphus echinopus*) and root-stem eelworm (*Tylenchus obtusus*), and, beset with a consortism of parasites, three of them, if not all four, capable of setting up disease by inoculation or presence. Which, then, of the four is responsible for the diseased state of the Roman Hyacinth bulb?

On taking a bit of the diseased tissue from the points on the young growth marked j, we find that the vessels of the leaf and the intercellular spaces contain a yellow mucus, and this teeming with bacteria. Not any of the other bodies are found there, hence the deduction that the bacteria are the causing agent, the yellow mucus located in the cells and intercellular spaces of the leaf occasioning the yellow spots on the leaf. The further fact is also established that the disease commences at the upper part of the plant, even on the leaves above ground, commonly at the tips or margins, and probably through minute openings situated there, and called water pores. On the bulb we find the disease commencing at the upper part, or tips, of the scales, and passing downwards in the bulb and occupying distinct areas from the other bodies. Probably the mites, and even the eelworm, facilitate the infection by bacteria through breaking down the cuticular tissues, and thus allowing the yellow bacterium to easily enter the tissues, but this rests upon no sure foundation, and the only fact deducible is that of the enviroinal conditions being extremely foul, and this occasioned by disregard of the measures known as cleanliness. Infection must be brought, and it generally finds billet where means have not been adopted to prevent infection, whether from root mites, eelworm, bacteria, and fungi. We may, therefore, glance at the means for preventing the spread of infection.

(1) Burn all diseased bulbs, not throwing them on the manure heap, which means securing a recurrence of the disease. (2) When a disease appears, remove the diseased plants, and take repressive measures in respect of the remainder. (3) Avoid fresh, or green manure, only using old and thoroughly rotten manure, or other animal or vegetable matter, for digging into the soil or mulching the surface. (4) Reject all bulbs produced by diseased plants, as they perpetuate the disease. (5) Avoid massing plants of the same kind together whenever circumstances permit. (6) Attend to the rotation of crops, not growing bulbs, and especially the same kind, indefinitely on the same ground, this being the best means of ridding the soil of any pest.

For further repressive measures, the following suggestions may be useful:—(1) Dust affected bulbs thoroughly with a mixture of two parts air-slaked lime and one part flowers of sulphur, or rub the bulbs well in the mixture. The lime acts well on the bacteria, eelworm, and dead or decaying matter, and the sulphur is very hateful to the root-mites and destructive of the fungus. (2) Use no form of vegetable or animal matter as manure, or a component of compost, but thoroughly rotted. If the soil is full of organic matter, whether from dressings of manure, leaf mould, decayed refuse, or débris of plants, apply a dressing of freshly burned lime, slaked with the smallest quantity of water necessary to cause it to fall into an apparently dry powder, using 1lb of the quicklime per square yard, and point in lightly. Afterwards, on the dug ground, apply 4oz of kainit per square yard, and leave for the rain to work in. For mixing with compost shortly in advance of employing for potting purposes, use a mixture of two parts basic cinder phosphate and one part best quality kainit in the proportion of 2 per cent. of the compost, mixing well, and turning at least twice, at intervals of ten days or a fortnight.

It is only recently that bacteria have been connected with plant pathology; numerous plant diseases, however, are now attributed to bacteria, some truly, others doubtfully so. Of the former, there can be no doubt as regards Hyacinth bacteriosis. It attacks the bulbs in the resting condition, and shows itself in the foliage. The attack in the resting condition is probably only a continuation of the disease set up in the foliage, descended to, and abiding in, the bulb in the resting condition, then accelerated by the confined circumstances of storing, and even of packing in quantities for exportation. The presence of the parasite is indicated by the appearance of yellow spots on the bulb or leaves, and these spots contain a yellow mucus teeming with bacteria. If affected bulbs are isolated and kept dry, air playing about them, the bacteria, and even eelworm, are retarded in their destructive work; while the root-mites and fungus thrive in corresponding measure on the diseased bulb; at least, such is the case as observed on the particular bulbs submitted to the Editor by "Chelwood." The whole of the bulbs were devoid of flower spikes for the current season's blooming, hence I conclude that the foliage had been attacked by bacteria in 1901, and the bacteriosis had been retained in the bulbs, it being only a matter of favouring conditions, such as contact with damp soil, or even damp confined environment, for the rapid development of the bacteria.

Loudon: "The father of Horticultural Journalism."

By Caledonian.



WE are fortunate in possessing an admirable memoir of John Claudius Loudon, written immediately after his death in 1843 by Jane Webb Loudon, his wife. This was published as an integral part of "Self-Instruction for Young Gardeners," which was the last book the great litterateur and horticulturist was engaged with, and which was unfinished at the moment of his sudden

death. Mrs. Loudon's biography of her accomplished and indefatigable husband was sketched while the great charm and winsomeness of Loudon's personality was still fresh and powerful upon her, and in every page of that most interesting memoir one can trace a jealous regard for the glory of his name. In many ways Mr. Loudon was one of the most remarkable characters of the Nineteenth Century. His early associations were not directly conducive to the path of literature or of art, yet in the horticultural phase of the former domain the name of Loudon stands unrivalled; and though his success as an artist was not great, he yet had one or two of his paintings hung in the Royal Academy.

His career opens at Kerse Hill, near Gogar, now a district of Edinburgh, in 1782, the year before America declared war against George III. and the Mother Country. His father was a farmer, but this son, the eldest of a family of nine, had unmistakeable predilections for plant culture and garden designing. Unfortunately, I must refrain from repeating some of the stories told of Loudon's boyhood, and reader and writer both must be content with a mere skeleton outline of Mr. Loudon's life and works. Passing over his earlier years, at sixteen years of age he had been apprenticed as a draughtsman to a Mr. Dickson, the nurseryman and "planner," of Leith Walk, Edinburgh. The times but recently prior to his nativity had witnessed that great revolution in the character of garden design from the formal or architectural to the landscape gardening style—a style said to be evolved from the Chinese pattern, and intended to produce the choicest portions of Nature's most beautiful examples by art (yet art concealed) in any spot wheresoever chosen. Before Switzer, Pope, Addison, and Walpole's time, in the earlier decades of the Eighteenth Century, formal designing had reached to the stage of chronical insipience, and the minds of practitioners were totally warped. Reaction occurs sooner or later in every instance where the extreme has been verged upon and there maintained. And so it was that one after another there arose a new school of garden and landscape designers, whose names and works are familiar to many, and in Loudon's very early years some of the more renowned of the reformers were at the height of their fame. As a draughtsman of estate and garden plans Loudon was naturally brought into line with the professors of these days. He sat up for study two nights each week while in his youth, and used then to drink strong green tea to maintain himself acute and wakeful. While a boy he seems to have become acquainted with the garden plants then grown. In 1803 we find he has reached London. Here he met Sir Joseph Banks

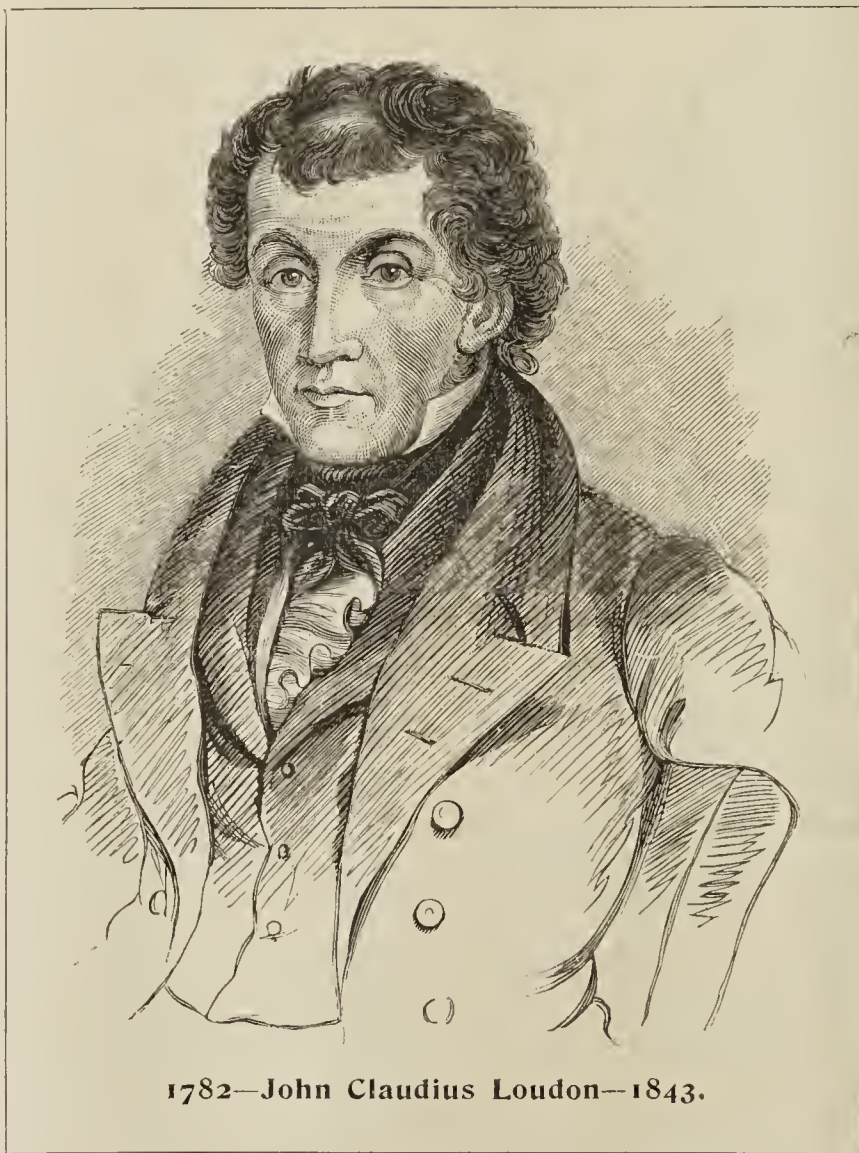
and a coterie of learned gentlemen and eminent naturalists of the day. Possibly it was in their company that he imbibed some of the great ideas and suggestions which he soon afterwards gave to the world in his books. I am proud to have a copy of the first book that Loudon produced. This was published in 1804, entitled, "Observations on the Formation and Management of Useful and Ornamental Plantations; on the Theory and Practice of Landscape Gardening; and on Gaining and Embanking Land from the Sea"; and indicates the direction of his studies in the immediate past. He was then only twenty-one years of age, and the technical erudition he was possessed of even then is conspicuously noteworthy. The embanking of sea-land was unsuccessful.

His first contribution to literature, however, had been given the previous year, when he wrote to a publication named "The Literary Journal," deprecating the sombreness of London squares and gardens, which were then graced with weirdly Scotch Pines and subdued by the blackness of funereal Yews. And, list ye! he advised the planting of Oriental and Occidental Planes, without which the Thames Embankment and handsome Piccadilly would stand blank, bare and bald at the present day. Further than this, it was Loudon in his youth who suggested a great wide breathing zone for the mighty metropolis, on which theme a hubbub soared high a year ago.

When this first book of Loudon's was published he was busy with the lands of the Earl of Mansfield at Scone, near Perth, and did not return to England till the following year—that is, the year in which Lord Nelson so utterly defeated the French at Trafalgar. Before leaving Edinburgh on this occasion, Mr. Loudon had finished another smaller work on the subject of improvements in glass houses. The glass houses of this period were exceedingly cumbrous, ill-ventilated, badly heated, and poorly glazed. Saving for a few species of Orchids, chiefly comprising *Cypripediums*, *Epidendrums* and *Oncidium*s, together with *Begonia*

nitida and *B. acuminata*, *Nelumbium speciosum* (which had been introduced from Jamaica by Sir Jos. Banks the year after Loudon was born); and such other exotic plants (the Heaths excepted) as *Gloxinia maculata*, *Plumbago rosea*, *Ixora coccinea* and *I. alba*, *Allamanda cathartica*, *Cyclamen latifolium*, *Gardenia florida*, *G. radicans*, and one or two species of *Dipladenias*, *Clerodendrons*, and *Bougainvilleas*, the glass houses at the beginning of last century contained few other subjects that were attractive.

We may form a more complete idea of the paucity of variety in our gardens as regards trees, shrubs, and plants at this time when we recall the fact that Australia was not discovered by Captain Cook till 1770 (twelve years before Loudon's birth) in his return voyage from Tahiti. The shores of Japan were surveyed for the first time in 1785 by the French voyager, La Perouse; the Hudson Bay Company and the North-West Company of Montreal were only beginning their explorations along the courses of the great Canadian rivers; and Mackenzie, in 1793, was the first to descend the mighty river that now bears



1782—John Claudius Loudon—1843.

his name, passing the Great Slave and Bear Lakes to the Arctic Sea, and was the first to cross the continent in its entire breadth over the Rocky Mountains to the Pacific. The interior of Africa was but beginning to be opened up, and the mighty vastness of South Africa was an unknown measure till the great and noble David Livingstone spent his strength and gave his life in the unravelling of many secrets about fifty years ago.

Throughout the years of his life-span, Mr. Loudon was phenomenally active. If he was not engaged in landscape gardening for the nonce, then it was his literary labours that claimed his thoughts; anon the study of classical and modern languages, or the practice of painting. During an enforced retirement to Harrow, in Hertfordshire, he acquired a knowledge of the German language, and took lessons in Greek and Hebrew. The cause that invalided Mr. Loudon on this occasion was severe rheumatism, contracted from his having been obliged to sit on the outside of a stage-coach all night long in a drenching rain while travelling from Carnarvonshire to London. The rheumatism finally settled in his left knee, leaving him with a stiff joint ever after.

Three years after this event—that is, in 1809—we find Loudon, the polyonymous, turned farmer on General Stratton's estate of Tew Park, in Oxfordshire. Mr. Loudon had written a pamphlet on the Scottish system of farming, and this, having come to the notice of General Stratton, he urged the young author and landscape gardener to come and manage his farm, which Loudon was induced to do, and soon effected improvements in draining, cropping, manuring, and the general well-keeping of the land. Furthermore, he established an agricultural college for the training of young gentlemen, and again he wrote a pamphlet which explained the purpose and general working of this tuition scheme. Mr. Loudon concurrently maintained his landscape gardening practice, and we find him assiduously engaged in England, Ireland and Wales while also farming. Having induced his father to migrate southward, and seen him well started in a suitable farm, the elder son (who had long nourished the desire to travel abroad) now started off on a North European tour. But ere his sojourn commenced he rescinded the supervision of the Oxfordshire farm, and was handsomely recompensed for the various improvements he had planned and completed. The completion of two books, one on plantations, the other on farming, was the latest of his literary labours up to the date 1809; yet others had been produced intermediately. In this brief biography I cannot hope to name each of his books as they appeared, but a list of them has been appended.

To Gottenburg, in Sweden—a country then renowned from the fame of the great Father of Botany, Karl von Linné, or Linnæus, who died in 1778—Loudon sailed on May 16, 1813. The Continent had been closed to English visitors for some years, but by general resentment against Napoleon Bonaparte it was thrown open in 1813. From Gottenburg Mr. Loudon journeyed to Memel and Königsberg. Here he found all the dread traces of war, the skeletons of horses, the roads broken up, and the country houses burned to the ground. At Elbing he found the streets full of the goods and cattle of country people, who had poured in for protection from the French army. Through Pomerania he came south-west to Berlin, thence through Posen to Riga, and onward to St. Petersburg. Proceeding, he wended his way to Moscow, on which journey he got fixed in a snow-storm. His horses were unable to extricate his vehicle, and judge of his consternation when he saw his postillions unyoke their horses and ride off. He remonstrated; he pleaded that he would surely fall a prey to the roving wolves, or, if he escaped them, the awful cold would overcome him. He was calmly told to go inside his vehicle and securely fasten the windows, upon which no harm need be feared; and the drivers added, as they rode off, that they would be back sharp the next morning with extra horses. And so they left Mr. Loudon alone on a Russian waste, with a snowstorm in its fury around him and the howls of the wild wolves borne in ghoully discord upon the screaming winds. Well might he cower and dread the worst; it would be a test to the nerves of even the Great Duke, and the memory of one moment in that awful night when a pack of wolves crossed the road where he was held was never forgotten during the remainder of his life. Returning via Prague, Dresden, Leipzig, Magdeburg and Hamburg, the itinerant again landed in England on the 27th of September, 1814. During this long and interesting route of travel he had sketched views of every place with any gardening merit attached, and had, of course, made copious notes, which are found embedded in his "Encyclopædia of Gardening." He had made himself known to most of the leading scientists, and had been elected Member of the Imperial Society of Moscow, the Natural History Society of Berlin, the Royal Economical Society of Potsdam, and many others.

For a time he retired to Bayswater, in London, with his mother and sisters (his father meanwhile having died, and he himself shaken through having lost the greater part of his accumulated fortune in an insecure investment), and experimented with various types of glass houses. He seems to have invented the ridge and furrow system of glazing—a method which Sir Joseph Paxton afterwards adopted so extensively in construct-

ing the conservatory at Chatsworth and also the Crystal Palace. The curvilinear houses were also tried, and his observations are embodied in the "Sketches of Curvilinear Houses," published in 1818. The Napoleonic troubles being now terminated, Mr. Loudon at once set himself to peregrinate in Southern Europe. Accordingly on the 30th of May, 1819, he set his face toward Paris, and onward to the pleasant shores of Genoa. This first journey (for he afterwards voyaged repeatedly), embracing Florence, Pisa, Rome and Padua, and other cities of distinction in history and high art, to the accomplished and observant Loudon, must have been inestimably delectable. After five months he returned. In 1822 he established "The Magazine of Natural History," which he edited till 1836. Mr. Loudon had already laid his plans for establishing an horticultural newspaper, even amid the multitude of his other undertakings, which space disallows me to record. Thus in the year 1826 "Loudon's Gardeners' Magazine" was inaugurated, and was continued till the death of the founder in 1843, when it ceased to exist. This horticultural journal first appeared as a quarterly, then bi-monthly, and lastly every month. There are nineteen volumes of the entire publication, which are offered in 1902 for £2 10s. Garden designing naturally occupied a very considerable space in the pages of the earlier volumes at least, but all phases of gardening were compendiously examined. From now onward Loudon's prolificacy as an author and compiler is well nigh astounding. Nor did he altogether relinquish the pleasurable exactions incumbent on one who professed and practised garden designing. During the succeeding thirteen years, from 1830 till death relieved this man, overburdened in work which was, perhaps, necessary to his very existence, he strained ceaselessly. For many years before his early death an amanuensis aided him. Loudon was a martyr to rheumatism during most of his life, and about 1830 he continually suffered the most excruciating pain. So severe was the pain in his left arm that two of his fingers and his thumb were contracted and rendered useless. And as though this was not distressful enough, his right arm was broken close to the shoulder by one of his physicians on an occasion when twisting and pulling exercises were being indulged. Shortly afterwards he had to have his arm amputated. At the age of forty-seven Mr. Loudon was married to Jane Webb, daughter of Thomas Webb, Esq., of Ritwell Hall, near Birmingham, whose acquaintance he made after reading a novel written by her, and named "The Mummy," with its plot cast in the Twenty-second Century! This novel details a large number of projected inventions. Mr. and Mrs. Loudon were most sympathetic in their married life. One daughter, named Agnes, was born, and she wrote children's tales; but what has come of her I do not know.

Mr. Loudon had long contemplated writing a book on the hardy trees of Great Britain, but he had never dreamed of the great expense of such a work. When, however, the "Arboretum et Fruticetum Britannicum" was once commenced, he determined to make it as complete as possible; and, surely, this magnum opus was his crowning success. The "Arboretum Britannicum" is an indispensable work to all botanists even at the present day, and the best illustrated work of its kind. During the time this work was in preparation—that is, between 1833 and 1838—Mr. Loudon underwent most extraordinary exertions both of body and mind. He resolved that all the drawings of trees should be from Nature, for which purpose he had seven artists constantly employed. He used to be out with one or other of them all day, and would come to his literary work in the evening, at which he worked till the small hours of the morning.

And, after all, what was his reward? He discovered that he had £10,000 to pay. His printer, his stationer, his blockmaker had liabilities to that amount. These circumstances might have quenched the power of any other person; but, thanks to his indomitable Scottish spirit, this brave and strong-minded gentleman set himself to do just what his famous fellow countryman, Sir Walter Scott, had done since his calamity but ten years before—he set himself to wipe away that mountain of debt. But, alas! the worry of it all, and his superhuman exertions, very soon relieved his spirit from its earthly labours. He sped the pulse of life to the utmost; books and parts of books were produced in a constant flow, and whose contents do not go down like jelly, "very sweet but not very filling"; on the contrary, the multitude of facts and details are encyclopædic thorough-out—solid, weighty, wise. Though he had to be wheeled in a bath-chair in his last years, yet Mr. Loudon travelled considerably, and laid out a cemetery at Bath shortly before his death. Mrs. Loudon describes the sudden, pathetic decease with strong realistic force. In 1843 he was cognisant of the fact that his lungs were diseased, and gave up all thought of recovery.

Being still pecuniarily embarrassed owing to the debt on the "Arboretum Britannicum," he would not relax his efforts; and even while borne down under a complex cruel burden of pain in every form, he continued dictating "Self-Instruction for Young Gardeners" right on till midnight on December 13, 1843. He retired to rest, but could not sleep, and during the dawn he was very restless and perturbed. In the concluding sentences of

her memoir, Mrs. Loudon writes: "I feel that I cannot continue these melancholy details; it is sufficient to say that though his body became weaker every moment, his mind retained all its vigour to the last, and that he died standing on his feet. Fortunately, I perceived a change taking place in his countenance, and I had just time to clasp my arms round him and save him from falling, when his head sank on my shoulders, and he was no more."

A week or two ago, when I had the privilege of a visit to the library of Mr. William Paul, at his beautiful home in Waltham Cross, what infinite pleasure he gave to me by the information that he had shaken hands, spoken, and dined with Loudon at his house in Porchester Terrace, Bayswater. Loudon's home was one of the great meeting-places for the fashionable dilettanti, titled aristocrats, and savants of the thirties. Loudon, Mr. Paul tells me, was tall and meagre in frame, and of his character: "Without one grain of malice in his nature, and so humble." His last sentence will suffice. "Loudon was the greatest horticulturist England has known."

A List of Mr. Loudon's Chief Works.

DATE.	TITLE.
1803.	An article in "The Literary Journal," entitled "Observations on the Laying-out of the Public Squares of London."
1804.	"Observations on Formation, &c., of Ornamental Plantations; Theory of Landscape Gardening."
1806.	"Treatise on Forming, Improving, and Management of Country Residences."
1808.	"Pamphlet on Scotch Farming."
1809.	"Hints on Gardens and Pleasure Grounds, &c., &c." (1 vol). "Hints on Laying-out Farms on the Scotch Style."
1814.	"Remarks on the Construction of Hothouses." "Sketches of Curvilinear Houses."
1822.	"Encyclopædia of Gardening." *
1824.	"Culture of the Pine Apple, &c."
1825.	"Encyclopædia of Agriculture." *
1826.	Established his "Gardeners' Magazine" (19 vols).
1830.	"Encyclopædia of Plants." *
"	"Hortus Britannicus." *
"	Established a "Magazine of Architecture."
1831.	Republication of "Encyclopædia of Gardening" * (rewritten). "Illustrations of Landscape Gardening."
1832.	"Cottage, Farm, and Villa Architecture." *
1836.	"Suburban Horticulturist" (12 monthly parts).
1838.	"Arboretum et Fruticetum Britannicum." *
"	"Hortus Lignosus Londoniensis." *
1840.	"Hortus Britannicus," second edition. *
1841.	"Supplement to 'Encyclopædia of Plants.'" *
"	"Encyclopædia of Trees and Shrubs" (first of 10 monthly parts). "Abridged 'Hortus Lignosus Londoniensis.'" *
1842.	"First additional Supplement to 'Encyclopædia of Cottage Architecture.'" *
"	"Planting," an article in the "Encyclopædia Britannica."
"	Repton's "Landscape Gardening" (revised).
1843.	"Cemeteries."
"	"Self-Instruction for Young Gardeners."

The asterisk (*) denotes the more voluminous works.

Publications Received.

No 2 of "The Nature-Study Journal" contains articles entitled (1) "A Country Walk in Autumn;" (2), "Nature-Study in an Evening School;" and (3), "Notes on a Few Informal Lessons with Village Children." There are also notes and reviews. The publication is issued by the South-Eastern Agricultural College, Wye, Kent, price, 3d. * * (1) "Readings on the Lilies of the World; their Cultivation, and best sorts for South Africa;" (2) "The Daffodil," both by Peter Barr, V.M.H. Published in Cape Town. * * "Lawns," by Sutton and Sons, Reading. A booklet of thirty-six pages, in green paper covers, sold at the price of 1s. Instructions on the formation of lawns by turf or from seeds, and on lawn matters generally, are here provided. * * "Kew Bulletin," price 4d. Appendix II.—1902. Contents: Catalogue of the library; additions received during 1901. * * "Cassell's Dictionary of Gardening," part 10, price 6d net, contains as a frontispiece a coloured plate of Michaelmas Daisies. * * "The Paignton Observer and Echo," containing report of Mr. Lee's (Torquay) lecture on "Hybridisation." * * "Artificial Manuring" (illustrated), by E. B. Hadley, F.C.S., price 6d., 101, Strand, London, W.C. * * "Transactions of the Scottish Horticultural Association, 1901." * * "Transactions of the English Arboricultural Society," Vol. V., Part I. * * "Sunset," February, 1902, contains an illustrated account of the achievements of Luther Burbank. * * "Reading College: The Manuring of Crops, and Notes on Manures."

"The Country."

This is the laconic, yet expressive title of a newly published monthly illustrated magazine, the first number of which appeals to us as a very high-class and distinctive publication. The price, at 6d., is cheap, even for these days. The illustrations are plentiful and good; the paper is of stout, art-rolled quality, and the articles upon it are instructive, useful, and entertaining, treating on insect and plant life, great countrymen, sundials, bees, the farm, hunting, and kindred subjects. Harry Roberts, Esq., is the editor, and Messrs. J. M. Dent and Co., are the publishers.

The Horticultural Hall.

It is with pleasure that we are able to present the following letter (abridged), sent to us from the Council of the Royal Horticultural Society, regarding the question of a new hall, on which subject this Journal has taken a deep interest. The letter runs as follows:

"The Council of the Royal Horticultural Society consider it desirable at the present juncture to make to the Fellows a general statement of the policy they intend to pursue. The Council are fully aware that a considerable number of Fellows desire that a garden better situated than Chiswick should be secured as a memorial of the centenary of the Society. It was also shown unmistakeably at the late general meeting that a widely felt desire exists that a better hall and offices should be provided which the Society would have completely under its own control.

"The Council desire to carry both these objects to a successful issue, and looking at the history of the Society during recent years, they see no reason why this should not be done. The practical question at the moment is, which of the two shall have precedence, as they certainly cannot both be proceeded with at the same time.

"The policy of the existing Council is to endeavour to secure first a suitable hall and offices near those now occupied, at Westminster, and when that is done to devote their attention at once to the acquisition of a site for a new garden.

"The reasons which actuate the Council in adopting this order are many, and among the more important are the following: (1) They consider it to be the more generally acceptable to those Fellows who take an active part in promoting the welfare of the Society; (2) they have already received promises of financial support to the extent of £8,000 towards the building, whereas no such support has at present been tendered towards securing a garden; (3) a site for a hall 400yds from Victoria Street, and in a rapidly improving neighbourhood as good as can ever be expected to be within the means of the Society, is at our disposal; (4) the Council are of opinion, and have been professionally advised, that the rent asked is a moderate one, and is within the means of the Society; the proposed lease is for 999 years, which is equivalent to a freehold; (5) they are also of an opinion that the provision of a good hall and offices would in itself attract a large number of new Fellows, and would in that respect help the subsequent acquisition of a garden.

"It should be noted that it has been found necessary to take the decision of the Fellows without any delay owing to the obligation of terminating certain leases at Ladyday.

"The Council confidently appeal to the Fellows, of whom they hope to see a full attendance at the Drill Hall on the 21st., at 3 p.m., to support the policy briefly outlined in this memorandum. They trust that the Fellows will not allow the Society to be placed in the undignified position of doing nothing to celebrate so memorable an occasion as its centenary, which would be the probable result of the rejection of this proposal.

"The Council hope to be in a position to place preliminary plans and estimates before the Fellows on the 21st. Having regard to the unbroken continuance of large additions to the Fellowship roll, and to the ever increasing interest taken throughout the Empire in every branch of horticulture, the Council feel that they will not appeal in vain for the funds necessary to provide a satisfactory hall and offices without serious encroachment on the invested funds of the Society. W. WILKS, Sec.

"By order of Council, March 11, 1902."

The New Hall Committee (whose names we have given repeatedly), after considering five sites, recommended one "In Vincent Square, at the corner of Bell Street. It has an area of 17,565 square feet, and the rent asked is £690 a year for a lease of 999 years. (The present Drill Hall contains 7,200 square feet.) The Ecclesiastical Commissioners, the owners of the land, stipulate that a sum of not less than £15,000 should be spent on a building and offices, and the said Committee are advised that the rates would not exceed £400 a year, which with the rent would make an annual expenditure of £1,100, or, after deducting the present cost of hall and offices—£320 a year—it would involve an increase of expenditure of £780 a year. The approaches to Vincent Square are not at present all that could be desired; but two new roads are already decided upon, one direct from Frances Street, starting from exactly opposite the New Cardinal's House, and the other from Horseferry Road to the corner of the site in question in Bell Street. In considering the extra annual cost the Committee have not made any calculation of either the additional expense of caretaker, light and fuel, nor for the possible income from letting part of the buildings to horticultural societies or the great hall for meetings, &c. The Committee believe that a sufficient sum to cover the erection of the necessary buildings may be raised by public subscription, towards which promises amounting to £8,000 have already been received.—Signed on behalf of the Committee, TREVOR LAWRENCE."

Royal Horticultural Societies.

Notice is hereby given that a general meeting of the R.H.S. will be held at 3 p.m., on Friday, March 21, at the Drill Hall, London Scottish, Buckingham Gate, S.W., to receive from the Council and, if approved, to adopt a report recommending a proposed site for a horticultural hall and offices. Fellows are requested to show their tickets at the door. None but Fellows will be admitted. It is important that all Fellows should endeavour to attend this meeting.—By order of Council, W. WILKS, Secretary.

Drill Hall, March 14th.

The meeting at Westminster on Tuesday last was of a bright and varied nature, though the weather conditions were dull and objectionable. Spring flowers were shown by the leading hardy plant nurserymen. Messrs. Barr and Sons, King Street, Covent Garden, W.C., staged Daffodils largely, and we also noticed *Fritillaria citrina* (green), *Iris orchoides*, *Narcissus triandrus calathinus*, *Scilla bifolia alba*, and *Helleborus niger* Madame Fourcadi, with yellow disc and white segments. Messrs. Cutbush and Son, Highgate, London, N., set up *Anemone Hepatica triloba cærulea*, and its double form, *A. H. t. alba, rubra plena*, and *rosea*. From Messrs. Hugh Low and Co., Enfield, came *Schizanthus wisetonensis*, *Acacias*, *Carnations*, and a large group of *Palms*, *Cytisus*, and *Crimson Rambler* Roses in flower. Messrs. Paul and Son, Cheshunt, staged double white *Camellias*, *Garrya elliptica*, and *Lachenalias luteola* and *aurea chrysantha*. They also had the double *Cerasus* James H. Veitch. From the Forest Hill establishment of Messrs. J. Laing and Sons *Cyclamens* were shown, together with stove and greenhouse plants, including *Calla Elliottiana*. Messrs. Cannell and Sons, Swanley, filled the whole of one side of the tables with a splendid lot of *Cyclamens*, *Cinerarias*, and *Primula obconica*. Of the latter several distinct varieties were exhibited as *P. o. rubra*, deep red; *Rose Queen*, rosy pink; and *violacea*, violet tinted. Messrs. Jackman and Son, of Woking, had a choice assortment of *Alpines*, as also had Messrs. Ware, Limited, Feltham, who staged amongst other things *Androsace carnea*, *Auricula Celtic King*, *Muscari botryoides album*, *Tulipa Kaulffmanni*, and *Fritillaria Moggridge* (yellow).

Messrs. Stanley, Ashton, and Co., Southgate, London, staged a varied group of *Orchids*, including *Odontoglossum Insleayi*, *Dendrobium vannerianum*, *D. Ainsworthi* Osidge variety, and *Lycaste Skinneri alba*. Frank A. Rehder, Esq., The Avenue, Gipsy Hill, staged a well-flowered group of *Dendrobiums*; and a larger group, chiefly of the same, came from Mr. James Cypher, of Cheltenham. Sir Trevor Lawrence, Bart., Burford, Dorking, sent up plants of the beautiful *Dendrobium barbatulum* (most profusely flowered), *D. melanodiscus* Rainbow, *D. nobile* Ballinum, *D. n. elegans*, and others. Messrs. Sander and Co. had a group of *Calanthes*, *Phaius*, and *Lælias*. F. Wellesley, Esq. (gardener, Mr. G. Gilbert), Westfield Common, near Woking, showed a handsome plant of *Lælio-Cattleya Leeasiana* (deep purple), *Lælia Jongheana rosea*, &c. Baron Schröder had a good plant of *Odontoglossum crispum Triffautianum*.

Col. Rogers (gardener, Mr. C. Murrell), Franklands, Burgess Hill, Sussex, staged one of the very finest grouplets of *Cyclamens* we have hitherto seen. The plants, of course, were in large pots, about 7in as far as could be seen, and bore an average of considerably over 100 flowers each. A Silver Flora Medal was awarded. From T. A. Bevan, Esq. (gardener, Mr. H. Parr), Trent Park, New Barnet, came a group of very creditable *Hippeastrums* and stellate Chinese *Primulas*.

Messrs. Waterer and Sons, American Nurseries, Bagshot, Surrey, staged *Conifers* in pots, with *Skimmia japonica*, *Pieris* (*Andromeda*), *floribunda*, *Juniperus virginiana aurea*, *Cupressus versicolor*, and other things; while from Messrs. R. and G. Cuthbert, of Southgate, N., came a fine group of flowering shrubs, including Ghent *Azaleas* in such named varieties as *A. coccinea speciosa* (orange red), *Isabella van Houtte* (yellow), and *hortulanus Witte* (a rich deep buff, tinged red).

Messrs. Wm. Paul and Son, Waltham Cross, Herts, had a wide assortment of forced spring stock, such as the *Carnation* flowered Peach, the double flowering Almond, the double white and double crimson Peaches, *Magnolia conspicua*, *Clematis indivisa*, and *C. i. lobata*; *Deutzias*, *Kerrias*, and *Forsythias* were also shown. The plants were all in pots, and all had been grown at Waltham Cross. Messrs. Frank Cant and Co., Braiswick Nursery, Colchester, showed the new Tea Rose, named Lady Roberts, with strong and perfectly shaped flowers, coppery at the base and rose-pink toward the tip of each petal. From Messrs. Veitch and Sons, Limited, came *Clivias* (selected seedling strain), well-flowered all of them. They also staged *Cineraria* Feltham Beauty and *Loropetalum chinense*, a new Chinese shrub with long whitish petals. A fine stock of it in 5in. pots was shown. A large number of *Orchids*, mainly single plants, were staged by the leading growers from around London.

Apples were well staged by Mr. Will Taylor, of Hampton; and Lord Wantage's gardener, Mr. A. Fyfe, of Lockinge Park,

Berks, set up model Onions of Cranston's Excelsior, Tankard, Ailsa Craig, and Opponent. Mr. Ward, of Shodon, Hereford, showed a dish of fruits supposed to be a cross between an Apple and a Pear. The fruits are Pear shaped, but with distinctly the skin colour and flavour of an Apple. The committee reserved its opinion till the wood and foliage can be seen.

Certificates and Awards of Merit.

Dendrobium Apollo album (J. Cypher).—A moderately strong growing variety, with flowers of fair size borne in tertiary clusters. The sepals and petals are pure white, the lip having a large deep crimson block. It is better than *Ainsworthi*; very distinct (Award of Merit).

Lachenalia W. E. Gumbleton (F. W. Moore, Esq.).—Rich amber colour; racemes long and stout. Award of Merit. F. W. Moore, Esq., Glasnevin.

Lælio-Cattleya x purpurata Schilleriana var. *Whateleya* (H. Whateley, Esq.).—The flowers are of moderate size, with recurving sepals and petals. The lip is rich dark purplish maroon, very slightly fringed, and broadened in front. Two side segments fold over the column. The purplish sepals and petals are irregular and wavy in form. Award of Merit. H. Whateley, Esq. (gardener, Mr. Cook), Priory Lawn, Kenilworth.

Lælia Digbyana-purpurea var. *King Edward VII.* (J. Veitch and Sons, Limited).—This is one of the most astonishing and beautiful varieties of the *Digbyana* crosses now in the possession of the growers. The lip is about 5in deep, and almost as broad, being bent down in front and exposing a wide surface. The fringed edges are lilac purple, but the colour deepens greatly towards the centre. The open throat is greenish or creamy yellow, a soft and pleasing colour. The sepals and petals are long and narrow. First-class Certificate.

"Woolton" Gardeners.

The last meeting of the session in connection with the above society was held in the Mechanics' Institute on the 6th inst., when Mr. Benson, of Bebington, gave a most interesting and instructive essay on "Plant Life" before a large attendance of members. Mr. Benson urged the young members to take a greater interest in the theoretical part of their profession, and said that the most difficult task for a man to learn is to impress on himself how little he knows about Nature and her ways.—J. S.

Ipswich Mutual Improvement.

The usual fortnightly meeting of the above society was held on March 6, Mr. R. C. Notcutt presiding over a good attendance. The evening was devoted to the reading and discussion of two short papers—one by Mr. A. Creek, The Chantry Gardens, on "Cyclamen," the other by Mr. Whittel, Pinetofts Gardens, on "Primula sinensis." Mr. Creek staged a group of splendidly grown one and two-year-old plants. Mr. Whittel likewise exhibited some well-grown plants, including some of the old double white *Primulas*. Among those taking part in the discussion were Messrs. Barker, Cann, Chandler, Osborne, Close, &c. A hearty vote of thanks was accorded both essayists upon the proposition of Mr. Barker.—E. C.

Croydon and District Horticultural.

The usual monthly meeting was held on the 4th inst., when several new members were elected. The chairman introduced Mr. W. Beale, Hayes Place Gardens, Hayes, who read an excellent practical paper on "Begonia Gloire de Lorraine." Mr. Beale prefaced his remarks by reference to the origin, beauty, and winter flowering of this *Begonia*. Propagation by cuttings and leaves—the latter preferred—soils, and general culture received special attention. Mr. Beale uses liquid manure about once a week, composed of water, cow manure, and soot. The paper bore evidence of Mr. Beale's skilful management of his subject, and received frequent applause. A discussion followed, in which Messrs. Woodgate, Bentley, Dingwall, Simpson, Humphreys, Mills, Gregory, &c., took part. Mr. Beale having replied to questions, a hearty vote of thanks was accorded him. The subject for next meeting, on March 18, will be "Caladiums."—J. G.

A Rose Garden, and a Vicar's Garden.

On page 224 the beautiful Rose garden (or "My Lady's Garden," as it is affectionately called) at Broughton Castle, Oxfordshire, is illustrated. We are indebted for the use of the block to Mr. Edward Owen Greening, of the "One and All" Agricultural and Horticultural Association, Limited, and also for the one depicting a vicar's garden (page 235), which exists near the metropolis. Both illustrations will be useful as plans, or guides, to produce features that are not always quite so successfully attempted in many gardens.

NOTES & NOTICES

United Horticultural Benefit Society.

The annual general meeting of this society (H. J. Cutbush in the chair) was held in London on Monday evening last, when the year's report and balance-sheet for 1901 were received and passed. Next week we will have space to fully report the proceedings.

New Conservatories at Windsor.

That the horticultural glass house builders and heating engineers are to benefit from the additions and alterations to be made in, and about, the Royal palaces, would seem hopeful, inasmuch as a sum of £8,000 is to be spent on new conservatories for the Royal Gardens at Windsor.

Weather in the North.

In a week of exceptionally fine weather for the season, the 17th may be noted as a day of summer-like brilliance and mildness. The thermometer has never fallen below 37deg. Gentle rain fell during the greater part of Saturday; the evening of Sunday was mild and drizzly; Monday was throughout bright and pleasant.—B. D., S. Perthshire.

Hessle Gardeners' Society.

The above society held their usual fortnightly meeting on February 18. The president of the Society, A. Jackson, Esq., Hessle, gave a very interesting lecture on his recent travels, which was illustrated by limelight. There was quite a record attendance, all of which thoroughly enjoyed the address by the president. Mr. H. Mason, gardener to A. Baley, Esq., the Mansion, Anlaby, was awarded first prize for a collection of Narcissus in the open competition of the society.—J. F. D.

Letters from Old Friends.

The thoughts of the veteran plant lovers, as materialised in print in one part of our supplement this week, must form a feature of considerable interest to the Journal readers, both old and young, but the older folks especially. There is William Paul and Robert Fenn, the "Herefordshire Incumbent," Richard Dean, David Thomson, Rev. C. Wolley Dod, and Rev. Alan Cheales. It is beyond our power to express the great satisfaction we feel in having these honoured men among us and their letters in our old Journal. And there are others of our old friends on whom affliction's hand lies heavy now, who have written to express the regret they feel at being unable to do more than greet the Journal and all those who for long have enjoyed their writings. Rev. H. H. Dombrain, though weak, is now mending, but very slowly; Mr. A. F. Barron (of Chiswick), Mr. N. N. Pownall (of Lenton Hall, Norwich), and others are physically disturbed by the changeableness that aye occurs when winter is falling back for spring.

United Horticultural Benefit and Provident Society.

The monthly committee meeting of this society was held at the Caledonian Hotel on Monday evening last. Mr. C. H. Curtis presided. The minutes of the last meeting were read and signed. Seven new members were elected and two others nominated. Ten members were reported on the sick fund, the amount of sick pay paid out for the month being £33 12s. The sum of 30s. was granted to a sick member from the convalescent fund. The decision of the committee at the last meeting was upheld in the case of a member who wished to be reinstated. The death of two members, viz., Mr. John Fairey and Mr. James Tegg, was reported, and cheques were drawn for the amounts standing to their credit in the ledger, being £32 1s. 1d. and £72 7s. 1d. respectively. The best thanks of the committee was accorded to Mr. George Gordon for his excellent article in the issue of the "Gardener's Magazine" of March 8. It was decided to obtain 3,000 copies of the article, and send them out with the annual report and balance-sheet. The treasurer was allowed to have a bank draft of £100 to meet current liabilities. The secretary was granted £5 as office rent for the current year. A hearty vote of thanks was given to the chairman and vice-chairman for their services for the past year, and at a subsequent meeting they were unanimously re-elected for the ensuing year.

Cornwall Daffodil and Spring Show.

We have been asked for the secretary's name and address of the above exhibition, which will be held at Truro on April 15 and 16. The secretary is the Hon. J. Boscawen, Tregye, Perranwell, Cornwall.

Bolton Gardeners' Society.

We are asked to state that the name of the secretary of the Bolton Horticultural and Chrysanthemum Society is Mr. Herbert Makin, and his address is 623, St. Helen's Road, Bolton. A good show schedule for the year has been prepared, and may be obtained from this officer.

Appointments.

It is reported that Mr. H. J. Chapman, Orchid grower to R. I. Measures, Esq., Cambridge Lodge, Camberwell, is leaving to take charge of the Orchids and the garden of Norman Cookson, Esq., Wylam-on-Tyne. * * W. Wainwright, for the last six years head gardener to J. Chadwick, Esq., Woodville, Stockport, has been appointed head gardener to R. Hobson, Esq., J.P., D.L., The Marfords, Bramborough, Cheshire.

Death of Mr. James Tegg.

Mr. James Tegg, for the space of thirty-one years gardener and forester at Bearwood, Wokingham, the seat of A. F. Walter, Esq., died very suddenly at Wokingham on the 5th inst., just on the completion of the seventieth year of his age. He retired from the charge of Bearwood through failing health some two years or so ago, and lived in retirement at Wokingham. He was buried in Bearwood Churchyard, which is on the estate, on Saturday last.

Thornton Heath Flower Shows.

With the spirited assistance of Mr. J. P. H. Brewsher, Leighton House, 87, Parchmore Road, Thornton Heath, as secretary, this horticultural society, in the second year of its existence, has produced a bulky schedule of prizes to be offered at its three shows during the coming year. The dates of these—in July, September, and November respectively—will be found in our list of fixtures at the back.

The Bluebell Wood, Glasgow.

We learn that the Bluebell Wood, one of the beauty spots of South Suburban Glasgow, is doomed. It is true the wood is not nearly of the dimensions it was twenty or thirty years ago, but it still possesses in certain seasons, and under certain aspects, no inconsiderable portion of its former glory. The acquisition of Camphill has, doubtless, reconciled the South Sider to the possible loss of the Bluebell Wood; but, after all, Glasgow is not so rich in natural plantations that it can afford to let it go without a pang.

Chiswick Gardeners.

At a meeting of the Chiswick Gardeners' Association, held on February 26, 1902, Mr. R. J. Tabor, F.L.S., gave a very interesting lecture on the "Root, its Morphology and Physiology." The lecturer touched on the general anatomical structure and the method of production of lateral roots and root hairs, &c. Several slides of many peculiar forms of roots were shown, and in a spirited discussion (opened by Mr. T. A. Dymes) followed at the conclusion of the lecture. Mr. Wright occupied the chair, and at the close very hearty votes of thanks were accorded the lecturer and Mr. H. Buck, the lantern operator. Mr. Dawkins (of Veitch's Chelsea) who was advertised for March 6 was unable to fulfil his engagement.

Scottish Horticulturists.

The monthly meeting of the Scottish Horticultural Association was held on Tuesday evening, the 4th instant. Mr. Gillanders, forester, Alnwick Castle, delivered a lecture on "Plant Structure as Revealed by the Modern Microscope." Mr. Gillanders in a most interesting and instructive manner showing beautiful examples, with limelight, of the structure of root, stem, flowers, and seed, of a great variety of plants, varying from the lowest to the highest organisations in plant life. The audience listened with close attention, and showed the warmest appreciation of the lecture. At the close, on the motion of Mr. Todd, a very hearty vote of thanks was awarded to Mr. Gillanders. It was intimated to the meeting that the Council of the Association had arranged with the Council of the Royal Caledonian Horticultural Society to hold a Summer Flower Show, on a small scale, in July, and that a committee had been appointed to carry out the arrangements.



The Black Currant Bud Mite.

Of late we have heard and read much regarding this pest, but perhaps none too much of the right sort. The latest report on the mite is a great advancement on anything of the kind written previously. I refer to Mr. Cecil Warburton's account in the Journal of the Royal Agricultural Society. One fact will be of the utmost importance to all those interested, and that is the way Mr. Warburton breaks down the theory that the mites can live in the ground on the roots. Many remedies have been tried, and I may say all have proved ineffectual. The only thing to do is to pick off the infected buds. Some growers are planting young bushes with a view of grubbing them after a period of four or five years; they will in all probability manage to get two crops worth having then out with them. As Black Currants will always find buyers, there is very little to fear regarding satisfactory returns. I recently heard of a gardener who did not know what the "bud mite" was, and only last year I was in conversation with a man in charge of a fruit plantation who did not know the cause of the big buds till I showed him through a lens. I heard a grower say a short time ago that he traced the mite back to '93 in his plantations, and it is only through the dry weather prevailing during the early summer months that the mite spreads so rapidly. Thus heavy rains in June and July would do much to prevent the spread of this destructive insect.—H. R., Kent.

Chrysanthemum Rust: Is it Dying Out?

I read with interest "W. S., Wilts'" articles on the above pest (page 207), and as this subject must now affect a great number of gardeners, more especially at this season, I think a timely discussion from sufferers and a recital of their experiences might prove interesting. That some varieties of Chrysanthemums are more prone to the disease than others are is evident to anyone who has paid marked attention to collections afflicted with the pest. My first acquaintance with rust was in the spring of 1900. I was then living in the Kingston district, where Chrysanthemum growing was, and still is, well carried out. Having a desire for a few of the newer sorts, I ordered the desired number of unrooted cuttings from a well-known firm. Our own stock was then perfectly healthy and innocent of rust. After rooting, the bought cuttings were staged in a low open pit along with several hundreds of others. The disease first made its appearance on three plants of Marie Calvat. These were promptly isolated and the whole stock carefully inspected, but no other varieties at that period exhibited signs of rust. The infected plants were sponged with a mixture of paraffin and softsoap, but still continued to show occasional spots of rust. This continued until they were potted into 6in pots, when no more signs of rust were observed; and on potting finally, about the last week in May, we considered our stock of some four hundred plants (the majority of which were for large blooms) perfectly clean, all varieties being subjected to a close examination at this final potting.

The collection continued to grow in this satisfactory manner until the latter part of August, when the Marie Calvats already mentioned, along with plants of Elsie Teichman, Pride of Madford, Modesto, Mrs. Barkley, Australie, and Mrs. Weeks, showed signs of rust on the bottom, or cutting, leaves. About the last week in September, when housing time came round, some two dozen plants were more or less affected, these being nearly all heavy-foliaged varieties, Elsie Teichman, in particular, being the worst offender. No cuttings were taken from any of the infected stock, yet in the spring of 1901 the disease again appeared, and on nearly the same varieties, which were propagated from cuttings taken from apparently healthy plants. We again took careful precautions, and separated the affected varieties, and again fondly hoped that we had overcome the enemy. Alas! for our hopes. When August again came round we observed our old enemy, appearing in much the same form, and on nearly the same varieties. About this time circumstances made it necessary for my removal from the Kingston district, but on taking charge of these gardens, in the early part of September, I discovered my old antagonist in complete possession of the Chrysanthemum department, a collection of some six hundred plants being more or less thoroughly infested with rust. As my previous experience had proved, it was useless pro-

pagating from an unhealthy stock I have discarded every plant, and from various sources have acquired an entirely fresh batch of cuttings, which up to the present time, I am pleased to say, show no signs of rust. In conclusion, regarding the dying out of the disease, I am afraid that is too good news to be true. In several gardens in this neighbourhood collections of plants are badly affected, one grower having adopted the same drastic measure as myself, namely, introduced a complete change of stock.—T. H. BOLTON, South Hants.

Wrong Nomenclature

There are lots of plants and flowers that are cultivated under names that are wrong. The names have been proved to be wrong and yet they are still continued. In days of such enlightenment as these, when books are comparatively cheap and gardening periodicals nowise scarce, it seems almost impossible for a plant to be cultivated by practical gardeners under a name that has become superseded. I do not have to look far for an example. The well-known Arum Lily (*Richardia africana*) furnishes much matter for thought on such a subject. To-day it is the "Arum Lily," to-morrow the "Calla Lily." Now I do not say anything is wrong about the common or trivial names, but when we are told that it is *Calla æthiopica*, or the Lily of the Nile, it is time to say something. The plant is certainly not a Calla, as we know the genus, but the meaning of the derivation is certainly in keeping with the lovely spathes, kallos meaning beautiful. Still, that fact alone is nothing. *Æthiopica* is—if travellers are authorities—totally wrong, for it is a native of South Africa, where it grows by thousands, and is known as the "Pig Lily," and has never been found growing wild on the banks of the Nile. Then why the name? Again, it is not an Arum proper, but I think as a common name Arum Lily is much more suitable than others, as it is easy to trace a resemblance between our wild Arum maculatum. Then, again, the use of the word "Lily" is, of course, quite improper. If people were to take the trouble—if trouble it be—to find out the derivation of a name of a plant before using a name they don't understand, scientific gardening would make fine strides onward. The generic name of the Arum Lily is *Richardia*, named so in honour of a French botanist, L. C. Richards; the specific name "*africana*" plainly tells us where it comes from. If a few facts like the foregoing could be brought to bear on all plants being cultivated under a misnomer a great boon would be conferred on the horticultural world.—H. R., Kent.

Magpie's Nests.

Supplementary to my brief notes on page 211, anent magpies' nests, it may be interesting to remark that since penning them I have noticed the increasing bulk of the nest in question, and closer inspection revealed the fact that, instead of appropriating the old nest for incubation, a new one has been in process of construction as a joint tenement. It was this morning (March 7) that I observed one of the birds still busily engaged in that operation. The "bachelor's" nest, however, has apparently not been attended to. I was not previously aware that magpies sometimes constructed their nests in the manner indicated, and it would be interesting to learn if any correspondent of the Journal could relate a similar circumstance. I may add that it has also been very interesting to observe the pugnacious attitude assumed by the twain magpies when their arboreal domain was being trespassed upon by inquisitive rooks—sometimes five or six together—and who had to retire minus building loot. Blackbirds, thrushes, missel (properly mistle) thrushes, and other birds have likewise been rigorously driven off from the brooding domain.

Regarding the folk-lore of the magpie, a great wealth of popular superstition has clustered round this, one of the most interesting members of our native fauna. The pyet, as it is called in some parts of the kingdom, is almost universally regarded in a special sense as a bird of evil omen. Popular reasons for the bird's persistent wickedness in the North of England especially, are: (1) Because it was the only bird that would not go into the ark with Noah; (2) because it is a hybrid between the raven and the dove; (3) because after the crucifixion it alone of all the birds did not go into full mourning. Its appearance and the numbers seen at one time are believed to be significant.

In Norway, where it is said to be most popularly prized, the magpie is invested with a certain amount of superstitious lore, and it also is there the most domestic and fearless bird, occasioned by the protection accorded by the natives regarding it as a harbinger of good luck. Consequently a Norwegian would never think of terrifying the bird for the sake of sport, but inveigles it to preside over the house, and when it has taken up its abode in the nearest tree defends it from all ill.—W. G.



Fruit Forcing.

PEACHES AND NECTARINES: EARLY FORCED TREES.—During the stoning process an equable temperature is desirable. With too much heat at night the trees are deprived of rest, and this is not favourable to the fruit. Cold and drying currents of air in the daytime are even more injurious, a sudden check sometimes proving fatal to the crop. Continue the night temperature at 60deg to 65deg, and in dull weather 70deg to 75deg in the daytime, and ventilate from 65deg. Attend to thinning the fruit betimes. It is not advisable to leave, during the stoning process, many more fruits than are to be left for the crop. One fruit to a foot of trellis covered with foliage is ample for the large Peaches; the medium sized may have the fruits left a little closer. Nectarines being generally smaller than Peaches, are often left much too close, which reduces the size of the fruits proportionately, hence to secure fine fruits they require similar thinning to Peaches. Tie loosely all the shoots required for extension and next year's bearing to the trellis as they progress, stopping any gross successional growths at about 15in. If the stopping results in laterals pinch them at the first leaf, and so on as produced. If extension is wanted the uppermost lateral may be trained in. Pinch laterals on extensions at the first leaf, and succeeding growths also to one joint. If the trees are in good order there will be little necessity for stopping the shoots if they are allowed space for the development of the foliage to solidify the wood as made. Shoots retained to attract the sap to the fruit should be stopped to one leaf, they having previously had the first growth stopped at the second or third leaf. Avoid stimulating the trees whilst stoning, but afford due supplies of water and food of a phosphatic rather than a nitrogenous nature.

HOUSES STARTED AT THE BEGINNING OF FEBRUARY.—The trees of the early varieties have set the fruits, while the late trees are in full blossom, and should be fertilised when the pollen is ripe. When the fruit is set recourse must be had to syringing in the morning and afternoon of fine days, but an occasional sprinkling, with damping the house, will suffice in dull weather, always having the foliage and young fruits dry before nightfall. Disbudding must be done gradually, commencing with the most forward growths; also thinning the fruit when it is seen which takes the lead in swelling, removing the smallest first, but avoid large reductions of foliage or of fruit at one time. A temperature of 55deg at night, 50deg on cold mornings, 55deg to 60deg by day, advancing to 65deg or 70deg with gleams of sun, will bring the trees on fast enough, ventilating from 55deg to 60deg, and not allowing an advance above 65deg without full ventilation.

LATE HOUSES.—Where the roof lights have been removed they should be replaced at once, the buds being well advanced in swelling and promising an abundant crop of fruit. If there be any trace of aphides apply an insecticide or fumigate the house before the flowers expand. Nothing conduces more to a good set than removing the flowers on the under side or back of the trellis, and turning on the heat after the anthers show for a short time in the early part of the day, to advance the temperature to 50deg and to permit of ventilation, as there is a prevalence of dull weather and cold at that time; closing the ventilators for safety prejudices the pollen. Houses that have fixed roof lights must have the borders rendered thoroughly moist.—**ST. ALBANS.**

The Kitchen Garden.

LETTUCE.—Following upon earlier sowings, a few more rows of approved varieties in both classes—Cos and Cabbage Lettuce—may now be sown. It is more convenient and economical to sow in drills than broadcast, for the necessary thinning and cleaning can be better carried out.

RADISHES.—Sow another bed of olive-shaped or long Radishes, scattering the seed broadcast thinly, and cover with fine soil. A light covering of litter will protect the seed until germination ensues.

RHUBARB.—Rhubarb just commencing growth may be much forwarded by covering the crowns with pots. New plantations can be made by lifting a few old roots, dividing into portions with crowns to each, and planting 3ft apart in rich ground.

PARSNIPS.—A bed of Student or Tender and True Parsnips may be sown now. Parsnips like deep rich soil of a moderately light character, but it should not contain manure in the top spit of soil. The old Celery ridges are the best for this and similar

root crops. Make the surface fine and level, and draw drills 12in apart and 1in deep.

CARROTS.—Under suitable weather and soil conditions Carrots may be sown. The Short Horn varieties are suitable for a warm border to come in early. The intermediate and long varieties should have deep rich ground and an open position. If sown in rows 12in apart they have ample room for development.

PEAS.—Main crop varieties may be freely sown now. Allow plenty of space between the rows, the tallest varieties being grown 10ft or 12ft distant, as intercropping with smaller crops, such as Potatoes, Cauliflowers, Lettuce, can always be done. The greatest care must be exercised now to prevent depredations by birds, as immediately the seeds germinate the tops are liable to be nipped off. Wire Pea guards must be placed over the rows as the best protection; failing these, strands of black cotton stretched tightly a few inches above the rows will do much to thwart the birds. Small mesh fish netting may, of course, be used, supporting it over the rows with bent hoops of wood or wire.—**LYMINGTON, HANTS.**

Observer's Notes.

On Sunday, March 9, a handsome wasp was observed flitting about in the sunshine at Chiswick.—**J.**

Recently I had a flower taken from a scape of Paper White Narcissus. All the flowers but one were perfectly normal, and this one had every part perfectly doubled; there were two pistils and doubled ovary, twelve stamens (six short and six long), and perianth of twelve parts. The cup was quite twice the size of that of an ordinary flower. I suppose this may be correctly termed a true double flower?—**H. R., Kent.**

[Are not "true doubled flowers" devoid of stamens from these having been metamorphosed to petals? Such is our teaching.—**ED.**]

Gossamer Webs.

It should be noted that the word "gossamer," to which reference was made on page 214 last week, is applied to two very different objects. Tennyson's "silvery gossamers, that twinkle into green and gold," are the webs of some species of Epeira, fastened to bushes and shrubs, which, wet with morning dew, are radiant in the sunshine of a September day. The other gossamer is the work of spiders, which are not webmakers, but by nature hunters, and throw out threads which enable them to migrate without trouble, being carried along by the breeze. It may be true, I am not prepared to deny it, that spiders of this sort are on the alert in the March winds; but I have never seen them so early out, though for many years an observer of Nature.—**ENTOMOLOGIST.**

Trade Catalogues Received.

F. Cooper, Bulb Specialist, 30, Manners Street, Wellington, New Zealand.—*Daffodils.*

Pinehurst Nurseries, Pinehurst, North Carolina.—*Wholesale Trade List.*

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1902.										
March.										
Sunday ... 2	S.E.	deg. 41.8	deg. 41.1	deg. 53.1	deg. 33.6	Ins. 0.09	deg. 40.6	deg. 41.8	deg. 42.3	deg. 28.4
Monday ... 3	S.W.	43.1	42.4	52.1	36.0	—	41.2	41.8	42.5	28.2
Tuesday ... 4	S.E.	38.7	37.8	44.9	35.0	—	41.4	42.0	42.6	25.9
Wed'sday 5	N.E.	35.7	35.3	47.3	35.0	—	41.4	42.1	42.8	24.1
Thursday 6	S.E.	31.6	31.3	47.3	31.5	—	40.1	41.9	43.0	25.3
Friday ... 7	S.W.	35.2	33.0	52.4	28.0	0.01	39.7	41.8	43.1	23.9
Saturday 8	W.S.W.	44.9	44.2	52.3	35.5	—	41.9	41.8	43.1	36.0
MEANS ...		38.7	37.9	49.9	33.5	Total. 0.10	40.9	41.9	42.8	27.4

Cold, dark, foggy mornings and dull days have been the feature of the past week, with an occasional burst of bright sunshine.



* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

THLADIANTHA DUBIA (D. F. T.).—This is a cucurbitaceous yellow-flowered annual. Sow seeds now indoors, and prick out the seedlings in a sunny position in May.

PRIMULA OBCONICA GRANDIFLORA (D. F. T.).—Sow in May or June. Sow P. Arctotis thinly in autumn, or as soon as the seeds are fully ripe, in shallow pans filled with sandy soil. The seedlings will be pricked out and planted out of doors in spring.

COOPER'S BLACK GRAPE (O. E. G.).—It is a late variety very similar to Gros Colman—indeed, very often confounded with this Grape, and some consider the two varieties identical. It has very fine, large, black berries and is a good very late, and requires to be grown in heat and well finished in order to keep well and to have good flavour.

STRAWBERRIES FOR KEEPING IN HOT WEATHER (A. E. R.).—Auguste Boisselot, midseason; Oxonian (Eleanor), late; Royal Sovereign, early; Sir Joseph Paxton, early or main crop; Loxford Hall Seedling and Waterloo, late, are likely to meet the requirements of your friend, a fruit grower in Croydon, a place about twenty miles outside Melbourne, in Australia.

OAK TREES NOT THRIVING (Constance).—We fear there is something radically wrong with your Oak trees, which you say are growing in a field on a dry clayey bottom, so very dry that, after a dry season, the soil is so dry and hard that it is late in autumn before it becomes wetted through. If the trees are not very old they might be benefited by the surface being partially removed, and light soil, containing more sand or gravel in its texture, substituted for it. We hardly recommend watering, as nature generally supplies moisture enough for all kinds of trees, excepting those newly planted, which yours are not.

LEGGY PLANT OF ARALIA SIEBOLDI (E. M. W.).—The plant, about 3ft in height, with a bare stem to that extent and leaves above that, would probably root if the stem were notched just below the head at a joint, cutting the stem about half way through by a transverse cut just below a joint or where a leaf has been, and another slantingly upwards so as to remove the piece of stem; then on the opposite side, and a joint above, make a similar incision, the plant being staked and the head secured to it so as to prevent breakage, covering the stem over the cuts with moss an inch or two above and below as well as over the incisions, binding with string or copper wire. If this be done now and the moss kept wet, roots would be emitted from the stem in the course of a few weeks, when the stems could be cut and the head potted into a 6in pot. Thus, with the top cut off just below the incisions and point of root emission, the plant would have the head of leaves just above the pot, the long stem being got rid of. If cut down to near the soil the old plant would no doubt push new growths.

ERICA HYEMALIS AND E. GRACILIS—FORCING PELARGONIUMS (Reader).—When the Ericas have done blooming, put them in the course of March in a compost of sandy turfy peat, draining the pots to one-third their depth, and keeping the neck of the plant slightly elevated. Be careful not to disturb the roots more than necessary, picking away the old drainage and the soil not filled with healthy roots. Give a moderate shift; large shifts are injurious. Continue the plants in the cool greenhouse, they could not have a more suitable situation. Placing Ericas in heat is their ruin; give them, on the contrary, all the light and air practicable. Train the shoots out by tying them with matting (but not so as to break them) to pegs in the soil. If the plants are thin of shoots, pinching out the points of these will cause the production of side shoots, and if very bare you may cut the plants in, but a portion of young wood must be left or they may not push from the stumps. A temperature of 55deg from fire heat is too warm for Pelargoniums at this season, for unless the plants are far advanced for bloom the shoots will certainly be drawn and the flower-trusses small. 50deg, with air, is quite warm enough until the trusses are formed, and 5deg more is desirable to bring the plants into bloom. Keeping close to the glass, abundance of air, and no more heat than necessary to maintain the plants in slow yet free growth, are the essentials of forcing; but the less the plants are forced the finer will be the blooms. Your Arum-like plant is *Richardia* (*Calla*) *æthiopica*.

FOWLS' DUNG (Guernsey Blue).—Make of it liquid manure by putting a peck to 40 gallons of water. Apply the liquid once or twice a week between the rows of drilled Onions, or to any other of your kitchen garden crops.

OLD BOOK ON FRUIT GROWING (R. W. D.).—"I have a book on fruit growing by Thomas Hitt, gardener to the Right Hon. Lord Robert Manners, and bearing date 1755. Can you tell me its value?"

[From 3s. to 5s. at the most.]

SALTING ASPARAGUS BEDS (A Subscriber of Many Years).—You may apply salt now, and throughout the time of the Asparagus growing—that is, until the end of September. We have applied the salt two ways—sprinkling it on the surface once a month at the rate of an ounce to a square yard, and dissolving it 4oz in each gallon of house sewage. This we apply once a week. The Asparagus is a native of the seashore.

IPOMŒA HYBRIDA MARGINATA CULTURE (C.).—Sow in a compost of light turfy loam, with about one-third of leaf mould added. Place in a hotbed frame, and when the plants are in the rough leaf harden off, and keep in the greenhouse until the last week in May; then plant them in the garden, giving them a tall stake to twine round, or, if desired, put three in a 12in pot, and train to the rafters of the greenhouse.

VINES DISBUDDING (Y. G.).—Wait until the shoots have grown enough to enable you to distinguish which will and which will not have a bunch of fruit, and when this is beyond doubt rub off that showing no fruit, or if both show fruit take away the smallest, giving preference to the shoot nearest the bud. You must leave one shoot to each spur, whether it shows fruit or not, rubbing off all others. One bunch on a spur is ample for a good crop, more taxing the strength of the Vine too much. Stop them at the joint or leaf above the fruit, and all laterals at the first joint. The Moss is *Selaginella denticulata*, and the other *Cytisus pauciflorus*, we think, but the flower was crushed.

ROLLERS FOR OUTSIDE SHADES (J. McI.).—There is nothing for this purpose so light as wood. The rollers may be made from 50ft and more in length if drawn up by each end and the middle. In such cases it is best where the pulley ropes pass underneath the roller—that is, fastened at back, come down the glass, and go back above the blind to a pulley at the top, all the ropes being joined to form one in the centre, so that one man may pull all the strings at once. A blind with a wheel or place for a rope merely at one end should not be much more than 30ft in length. We have seen galvanised iron rollers, stout but hollow inside, and about 1½in in diameter, do very well; but if the roller is heavy, and one pulley string has too much to do, they too will warp. The best remedy is to have plenty of pulley strings, and supposing there are three, the two end ones may be brought along the top of the house to the middle, and one man can then pull all the three strings at once.

CATTLEYA LABIATA—PSEUDO-BULBS DECAYED (J. M.).—There is nothing in the piece you sent to indicate the cause of the decay, it probably having arisen from an excess of moisture on the particular part, and, thus weakening the tissues, has given advantage to some parasitic or semi-parasitic micro-organism, thus hastening putrefaction. A similar, if not identical, disease sometimes attacks Cattleyas at the roots and spreads to and destroys the pseudo-bulbs, turning them quite black, and afterwards they decay. This has been attributed to "brunure," or browning, a disease that affects Vines, Potatoes, Tomatoes, and many other plants, named *Plasmodiophora vitis*, which infests the cells, having an amœboid appearance. It, however, may arise from physical causes, a common occurrence being that of water lodging in the large sheathing scales and thus setting up decay. Syringing, therefore, must be done carefully, especially when the pseudo-bulbs are young, instead of syringing plants grown in pots.

NAMES OF PLANTS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (R. W. Dean).—1, *Cupressus thyoides* var. *leptoclada*; 2, *Cryptomeria japonica* var. *elegans*; 3, *Cupressus pisifera* var. *plumosa aurea*; 4, *Cupressus pisifera* var. *squarrosa*; 5, *Juniperus communis*; 6, *Thuya occidentalis* var. *lutea*; 7, *Cupressus pisifera* var. *plumosa aurea*; 8, *Thuya gigantea*; 9, *Abies Pinsapo*; 10, *Pseudotsuga Douglasi*; 11, *Cupressus pisifera* var. *filifera*; 12, *Cassinia fulvida*. (J. M.).—1, *Eupatorium riparium*; 2, *Eupatorium adeniphorum*; 3, unrecognised without the flowers; 4, *Sequoia sempervirens*, the Californian Redwood.

NAME OF FRUIT.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (R. W. D.).—Apple Cobham.

EDITORIAL NOTICE.—Our readers can greatly assist in adding interest to the pages of "The Journal" by their kindly contribution of timely notes and notices, and at the present period of the year there may be photographic examples of well-grown fruit, &c., growing or otherwise, that would be worthy of reproduction. The Editor would be pleased to have such subjects for consideration and probable use. He does not guarantee to pay for prints unless by special agreement.



Purchased Manures.

"The Garden of England" is a term with which most of us are familiar in connection with the county of Kent. That this term may appropriately be applied to the whole of Great Britain in the near future requires no great stretch of imagination. Small culture appears to flourish as the old-fashioned type of farming languishes, and nothing else is possible as long as this country continues to be the favourite residence of wealthy folk. But the higher and more exhausting the nature of the cropping the greater and more important must be the manure bill, for all farmers are not so fortunate as a correspondent of a Scottish newspaper, who buys cheaply, or almost begs the yard manure of his neighbours.

As high culture and heavy cropping extend in this country, and unless some unlooked-for revolution takes place, they must inevitably do so; so must the farmers' bill for purchased manures, whether natural or artificial, assume a greater importance in the annual balance-sheet. We do not propose to go through again the old history of nitrates, phosphates, and potash on this occasion, but there are a few points to which we wish to attract our readers' attention.

There is now such a great run on basic slag and on some soils deficient in lime, or of especially acid character, the benefit from its use is so marked, that this fertiliser is becoming one of the mainstays of agriculture. Apart from its value for use on particular soils, it has been of great benefit to farmers because of its influence on the value of phosphates which might have otherwise, under less severe competition, have reverted to the values of thirty years ago—namely, superphosphate 26 per cent. soluble at 70s. or 80s. per ton.

In this connection, the last report of Dr. Voelcker to the Royal Agricultural Society is of especial interest. In this report a case is quoted where a member bought 20 tons of basic slag under a guarantee of its containing 38 per cent. to 45 per cent. of phosphates, and found, on sending a sample for analysis, that it only contained 27½ per cent. Eventually a return, or rebate, of £14 8s. 4d. was given off the bill. The Royal Agricultural Society says: "This case shows clearly the necessity of, and advantage to be derived from, checking purchases by means of analysis." We thoroughly endorse everything that has been quoted, for we are sure that commercial advantage is being taken of the great variations in the value of different qualities of basic slag. Farmers must not buy basic slag, as such, without a guarantee, any more than they should buy phosphates. But there is a difference which should be noted. Superphosphate is a manufactured article, and therefore has a specific market value; basic slag is a residuary, and is difficult to fix at one exact proportion of phosphates or lime, therefore the purchaser's best course is to buy strictly on analysis, and we would suggest that the price should nearly approximate to 1s. per unit per centum of phosphate of lime, the price to be for the article in bags free on rails to purchaser's order.

Another matter to which Dr. Voelcker calls attention is the importation of a new form of potash salts of inferior quality, under the name of kainit. This manure comes from some newly-opened mines on the Continent, and contains only about 13 per cent. of sulphate of potash. The price is about 40s. per ton, whereas kainit as generally known, costs 50s. Farmers might, therefore, easily be led into buying this new form of potash, as they would be under the impression that they were buying a cheap article. But as good kainit should contain 23 per cent. of sulphate of potash, whilst costing 50s., a little calculation will show us that another form, which only contains 13 per cent., should be purchased at about 27s. 6d. This kainit is therefore 12s. 6d. per ton too dear; but in addition, according to Dr. Voelcker, there is a further and greater objection, in that it contains much chloride of

magnesium and very readily takes up moisture. Dr. Voelcker thus warns farmers against using this material. "It is thus difficult to store on the farm and bad for mixing with other manures. It behoves farmers, therefore, when purchasing kainit, to see that they obtain a definite guarantee of its containing 23 per cent. of sulphate of potash or thereabouts."

A new form of phosphate of lime, of which we may hear a great deal in the future, and which has been named basic superphosphate, is made by mixing superphosphate with slaked lime in certain proportions. The process has been protected by patents, and great things are prophesied concerning it. The acid nature of ordinary superphosphate is entirely got rid of, and the result is that the manure is more of a basic character. The manure contains 33 per cent. to 35 per cent. of phosphate of lime, i.e. 7 per cent. to 9 per cent. more than superphosphate, but the lime is not soluble in water, which may prove to be a drawback. It is, however, more soluble than basic slag, as 25 per cent. of phosphate is soluble in a 0.01 per cent. solution of citric acid and water. It therefore appears to us to be likely to prove a competitor against basic slag, rather than against plain super. For one thing it will be less difficult of application. We have not ascertained the cost at which it is to be put upon the market, but it should not be much over 40s. per ton.

Dr. Voelcker has yet another warning for farmers. Some of the most advanced and perfect machines for cleaning cotton seed before crushing have cost their inventors great trouble and expense. And the results of their labours have been to very greatly improve the quality and digestibility of cotton cakes. The outer husk of the cotton seed is well known to be indigestible, as there is always a small amount of wool attaching to it. Yet an attempt is now being made to introduce into this country from America, as a feeding material, the husks which are removed in the process of making decorticated cotton cake. It appears an absurdity to decorticate cake if the husks are fit for food, and there should really be little need to warn farmers against buying such rubbish. Dr. Voelcker, however, thinks a warning necessary, and that is our apology for reproducing it here.

Work on the Home Farm.

Farm work is once more plentiful, and instead of hunting round for possible jobs, we now are in doubt which way to turn first. There has been no rain for a week, but bright sunny days with thick foggy nights. Although there has been no wind, the land is drying very rapidly, and all kinds of work are possible. When we say that we have seen a roll at work on Wheat it will not be necessary to ask whether farmers are drilling spring corn. They are; drilling, and preparation for drilling, are visible on every hand. The sharp frost of mid-February has done wonders to Turnip land, and it is breaking up to an ideal Barley mould. In fact, the land is in such fine order for sowing that we should strongly advise everyone to be getting their seed in. The middle of March is not too early for any soil if the seed-bed be good, and we may not have such weather long.

That was a wideawake farmer whom we saw rolling his Wheat. After the severe lifting frosts we have had, Wheat is very lightly rooted, and must be fastened if we wish it to do well. Now is a golden chance to get the work done, so keep the roll moving over the Wheat fields. As soon as the young Wheat has reared its flag again it should be harrowed, and the sooner the better if the land is subject to weeds; but it must not be harrowed when wet. The Turnip land which has been steam ploughed for Potatoes is in splendid condition, and must be ridged at once and planted as soon as possible, so there is plenty of work before us.

In-foal mares must be lightly worked up to foaling time; by this is meant regular work of a light nature. They should, as a rule, be kept out of the shafts, and if they are put in should not be allowed to back full loads. Ploughing, harrowing, and light rolling are suitable tasks, and a mare should not be yoked with two others abreast for ploughing or rolling, as horses when so yoked jostle each other a good deal at the turns.

The lamb crop as a rule promises to be light: twins are decidedly scarce, and we have heard of only one heavy fall. The weather has been favourable, and not many have been lost; but there is still some mortality amongst ewes. A neighbour who is noted for his good fortune at lambing time is already lamenting the loss of several ewes, and others are also complaining of similar bad luck. Pigs are as dear as ever, and pork is 7s. per stone (14lb); whilst ewe mutton, including the wool, is barely worth 6s. The recoil in pork is long in coming, but is none the less certain.

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Journal of Horticulture.

THURSDAY, MARCH 20, 1902.

The Advancement of Gardening.

IN the many phases of British gardening, whatever the station of life in which its votaries may be placed, there appears the same strenuous love of the craft, the same eager desire to be up to date and to be prepared for all the exigencies of modern horticulture. Looking over a large garden a few weeks ago (one which I had not seen for a number of years), I was struck with the efforts that had been and were being made to keep up with the requirements of an extensive establishment. The same thing may be seen among amateurs. The village champion vegetable grower is not content with the old Fiftyfolds and other ancient varieties of garden produce apart from Potatoes. See with what pride this said champion will show you his specimen Onions or his mighty Leeks, or his Satisfaction Potatoes. With what unction he shows you his largest and finest tubers, pertly asking, "What do you think of that for a Potato?"

This man may believe in quantities of farmyard manure, but he will most probably have moved with the times, and be able to give you his views on the relative merits of "super" and muriate, bonemeal and sulphate, and will most likely deliver a short lecture on the whole duty of the cultivator in the direction of deep and, provided you will stay to listen, thorough tillage of the soil. Many such there are in these days of County Council lectures, worthy craftsmen, who are living refutations of the assertions which in some instances have been uttered, that nothing definite would be the outcome of this branch of technical education. But this is apart from what I had intended saying. The love of horticulture is not a growth of yesterday or the last few weeks, or the last two or

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three years. Go back as far as we can in the history of the world, so far as any authentic annals will carry us, and we shall find, into whatever period we look, there will be some mention or proof of gardens of some kind or other. The gardens of old were famed in one way or another for this feature or that, and though of course there is little evidence to show us that there was any passionate regard for gardening, we know that in many instances where these gardens became famous, and have since been quoted by writers and travellers, there must have been the same fostering love and care that we see so lavishly bestowed in our own times.

The great feature to be observed in modern gardening is, to my mind, the distinct advance there has been towards general utility. The tendency there evidently is to obtain the greatest possible amount of produce from the smallest available space. Not only is this the case with the holder of a small plot, it has become a necessity with the men who superintend our largest gardens, and unless there is this well-known and well-understood affection for the work, there is usually failure in certain measure.

For the real love of gardening, the very essence, so to speak, commend me to the specialist. The man who gets up early and goes to bed late; whose daily life is one long act of worship and devotion towards the object of his adoration. His conversation reeks of his pet subject, whether that be Orchids or Chrysanthemums, vegetables or fruit. Not always a pleasant personage to spend one's days with. It is possible (no matter how fond one may be of gardening in all its branches) to become more than a little tired of the hobbyist when he rides hard and rides often. But, for all this, these people command our respect, for to them in their different sections we owe those introductions from time to time of new and improved kinds of garden produce of all descriptions which help so strongly to mark the advancement and increased love of gardening during the past few years.

Turning from the specialist, we have, from the point of view of some minds, a lower grade in gardening: the general lovers of most things relating to the ancient vocation. We are not to be despised in our affections, I trow; every season brings us a reward in the shape of the awakening and strengthening of our affection as the various objects come into being, and wax and wane in turn. Each month of toil, of fair weather or foul, brings recompense great or less according as we have worked and perhaps deserved.

The daughters of the year,
One after one
Danced into light, and died into the shade,
And each in passing touched with some new grace.

So might the poet have sung of the ever recurring months of a gardener's life. The years roll round, bringing now light and now shadow, failure or success. The bright occupants of our gardens, which it is our great privilege to love and cherish, blossom and fade and pass away, at least for a time, having each in turn given an air of graciousness to a small plot of earth's surface. For as we roam from one loved beauty to another, there is naturally a larger number of interests. In the time of Roses we may grow enthusiastic over the queen of flowers, or become enraptured in early autumn over the gaudy Dahlia. But when frost has done its deadly work on these, we turn with equal pleasure to the Chrysanthemum blooms, and gaze admiringly on our groups of mop-headed flowers.

Soon there comes the season of the fragrant Hyacinth and many bulbous plants. Snowdrops, and "dancing Daffodils." And quickly round to Rose time again. It will possibly be urged that we love too many for our affection to be of an enduring nature; on the other hand, the man who takes up one particular branch of the profession may very well be accused of partiality. The orchidist will perhaps vote certain classes of decorative plants rubbish; or the man who cares little about Orchids declare them to be in most instances expensive weeds. These are both opposite views, I know, and seldom encountered in their extreme phases, yet they may be met with occasionally.

But there is so much in gardening that is ennobling and uplifting in such a variety of forms, and of so many varied interests, that few in number are they who can truthfully declare they care nothing about our ancient craft. Rather do the numbers increase yearly of those who must have a "bit" of garden. The love of the work spreads from one adherent to another. A spirit of emulation is to be noticed. A sees that B has this or that in his little plot or greenhouse, and resolves to go one, or perhaps two, better, and in friendly

rivalry they strive against each other, gaining a still greater affection for their gardens, and a wider knowledge of its many branches.

I might still go on pointing to this or that landmark in the field of progress, of the great personal interest taken by owners of gardens, and the help this must be to those who have the charge of them. Of the multiplication of small and medium sized places all over the kingdom. There are, and always have been, croakers who say that certain fruits or plants or flowers are not as well grown now as formerly. But as I have said previously, the tendency of present day progress is for the greatest possible amount of return for the smallest outlay, and in this direction our affectionate energies must be turned. There can be little doubt that in this matter of general utility modern horticulture compares very favourably indeed as against "the brave days of old."—JOHN WRIGHT, Hopton Hall Gardens.

II.—Botany in the Garden.

(Continued from page 188.)

We may begin to consider the plant-cell. As with protoplasm, so the nucleus is very important in the life of a cell. One, at least, is present in every cell. It is of the same chemical composition as protoplasm, only denser. It is capable of division, and in this way new cells are formed; in fact, a nucleus originates by the division of a pre-existing one. Of the other cell contents the chloroplastids, or chlorophyll granules, are the most important in the life of the plant, as they constitute the green colouring matter, by which is decomposed atmospheric carbonic acid, and starch is formed. This latter substance occurs in all green plants. The essential condition for its formation is the presence of light, chlorophyll, and carbonic acid. After the starch is formed, it is rendered soluble by being converted first into sugar and then into glucose, and in this form is conveyed to the growing parts of plants, there to undergo the process of being again converted into starch.

Two of the most important changes that occur in the cell-wall are its conversion into wood, as in perennial stems, and its conversion into cork or bark. As the growth of a plant proceeds, certain cells become fused by the absorption of cell-walls, and in this way vessels are formed. Vessels occur in the wood and bark, and form the veins of the leaf. Cells may be united end to end, as in hairs; side by side, as in the epidermis of leaves; or in all directions, forming a mass as in pith. A group of similar cells is known as a tissue. Tissues are of various kinds. A tissue that still retains its protoplasm, and is capable of cell division, or growth, is called cambium. When it has lost this power it is known as permanent tissue. Parenchymatous tissue consists of cells loosely packed, and generally of cubical or spherical form, with large intercellular spaces, as in pith, or the pulp of fruits. Prosenchyma consists of long, narrow cells, and occurs in bast. Sclerenchyma is the kind of tissue we find in the "stone" of fruits. These different kinds of tissue we find variously grouped together in systems. The fundamental system, also called the Primary Meristem, is the tissue from which all the other systems originate. After these latter have been formed, certain parts remain in their original form as permanent structures. These are the medullary rays, endodermis, mesophyll, and mesocarp.

The medullary rays are lines of tissue, radiating from the pith or "medulla" to the "cortex" or bark. They form the silky grain so much admired in oak and some other woods. The endodermis is a thin layer of tissue just below the bark. The mesophyll is the parenchyma or primary tissue in the interior of leaves. It really consists of two kinds of tissue—palisade cells and spongy parenchyma. The palisade cells are immediately below the outer skin or epidermis, and are closely packed (hence their name). They are full of chlorophyll granules, and are thus assimilating. They are responsible for the darker green of the upper surface of the leaf. The spongy parenchyma is below the palisade cells, and consists of irregular loose cells. Its chief function is transpiration. This tissue is increased by cultivation, as in the leaf of the Cabbage. The mesocarp is the fleshy part of fruits. First system to become modified from the fundamental is the epidermal system. The epiderm is the outer layer of cells on the roots, branches, leaves, &c., of plants. The outer wall of these cells forms the cuticle. Some cells may be elongated to form hairs. The cells of the epiderm usually contain nothing but air or water. They are sometimes covered with particles of wax on their outer surface (as in the case of Grapes and Cabbage leaves) which is known as "bloom." The purpose of this bloom is to throw off water and thus prevent decay. The epidermal cells on all aerial surfaces are interrupted by openings or stomata, communicating with the spongy parenchyma beneath, for the transpiration of water.—WM. R. R.

**Lælio-Cattleya × Chôletiana**

At the meeting of the Royal Horticultural Society, held in the Drill Hall, Westminster, on February 25, both Messrs. Hugh Low and Co., Enfield, Middlesex, and Messrs. Sander and Sons, St. Albans, exhibited this new hybrid, each receiving an Award of Merit. The flowers are of graceful form, the petals and sepals being wavy. The lip is long, fluted, and bent down in front, the edges being much crinkled and coloured bright rose-purple, with a yellow disc and some dark lines on either side. The petals and sepals are more lightly coloured than the lip. The parents were *Lælia superbiens* × *Cattleya Mossiae*. Our figure on this page is from a sketch by Mr. George Shaylor.

The Week's Cultural Notes.

As soon as the flowers of *Cœlogyne cristata* are past the plants commence to form new growths and roots, and this is the proper time for rearranging the compost. There is a considerable difference in the habit of the varieties of this useful Orchid, some of them growing very compactly with the pseudobulbs close together upon the rhizomes, others having the former very much farther apart. The latter class of plant gets untidy in appearance much more quickly than the former, and should have a little new compost added annually.

As this is placed in position the rhizomes must be lifted and the peat and moss carefully dibbled in. An endeavour should be made to pull the leading growths as near the centre as possible, forming a well-filled up and evenly balanced plant. Should souring of the old material be noticed remove the whole of it, if necessary turning the plants out of the pots to do so, but not otherwise, as this Orchid dislikes being pulled about at the roots. Large old specimens may need a few of the back bulbs removed, but this is not advisable in the case of weak or small plants. A third of good leaf mould added to the compost is an advantage for this plant.

Just now there is a great disposition on the part of amateur growers to over-water plants that are commencing to grow. Wait until both roots and growth are thoroughly active before increasing the water supply, or the compost will be soddened before the new roots reach it. A moist atmosphere and comparatively dry condition of the roots is much better than the opposite for all classes of Orchids now, especially the deciduous sorts.

Shading has not yet been needed, but all blinds should be got ready for use, as bright bursts of sunshine after a rather exceptionally dull period will play havoc with the flowers of delicate sorts. A very light shade, and for a short time only, is required at first; weakly, attenuated growths and few flowers follow heavy shading early in the year. All arrears of winter cleaning must be brought up to date, as a plant with a few insects upon it will soon become overrun if neglected. *Masdevallias* are notoriously addicted to attacks of thrips, especially the yellow variety, which spoils the beauty of the flowers. Here a few light fumigations should be given, using one of the excellent vapourising compounds advertised in the Journal.—H. R. R.

Megaclinium leucorhachis.

"B. M." t. 7,811.—Orchidaceæ. S. A Bulbophyllum-like Orchid with a dilated flattened white rachis of the inflorescence and shortly stalked decurved, velvety-yellow flowers. Flowered at Kew in 1901. Lagos.—("Kew Bulletin.")

Cyrtopodium palmifrons.

"B. M." t. 7,807.—Orchidaceæ. S. The specific name is in allusion to the resemblance which the leafing stem bears to the

leaf of an Arecoid Palm, the leafless portion of the stem answering to the petiole, and the distichous narrow leaves to the pinules of the Palm. Flowers about an inch broad, shortly stalked, lemon colour, spotted with rose-pink. Flowered at Kew in 1901. Brazil.—Dr. E. A. HEATH ("Kew Bulletin").

Moorea irrorata.

The Kew plant of this very handsome Orchid (of which only two plants are in cultivation, we believe) is developing two stout racemes of its chestnut-coloured flowers. The inflorescences are not so strong as those thrown up last season. A figure of this Orchid (named in honour of Mr. F. W. Moore, curator of Glasnevin Botanic Gardens) was given in the *Journal of Horticulture*, April 4, 1901, page 277.

Cypripedium Edmund Rothwell.

This is a new and handsome *Cypripedium*, which was recently figured in "American Gardening." The photograph also shows

**Lælio-Cattleya × Chôletiana.**

the two parents of the hybrid, which is a cross between *Sallieri Hyeatum* and *Hookeræ*. This cross was made January 5, 1896, and the seed was sown January 27, 1897, the first seedlings appearing on October 10 of the same year. The first flower was opened on January 3 of the present year, almost exactly six years from the time the cross was made. Description of the flower is as follows: Dorsal sepal, primrose yellow, darkest towards the base, with a white margin. Petals, rich butter yellow, with a strong suffusion of the purple of the pollen parent, *Hookeræ*, over the lower half, most intense at the extreme ends. Inferior sepal, greenish, much the shape of *Hookeræ*. The staminode strongly resembles the seed parent, *Sallieri*, a strong yellow in colour. The pouch also resembles the seed parent in shape, and is a dark yellow suffused with a tawny colour. The spots of *Sallieri* have entirely disappeared from the dorsal, and the general appearance of the flower is a decided improvement over those of the parents, and yet is quite intermediate. The plant from which this is bloomed is very small, and a decidedly larger flower is expected from the next growth. The foliage is almost exactly intermediate in colouring and appearance, being beautifully tessellated like that of *Hookeræ*, although a much lighter colour, and with the upright habit of *Sallieri*.—J. E. ROTHWELL (in "American Gardening").

The Business of Market Gardener.

(Continued from page 223.)

I have dwelt at considerable length on the marketing question, because it is the beginner who is usually bent on reforming procedure, thinking to accomplish something much better than older and more experienced men have succeeded in doing. What, however, is of greater importance, is the decision to be arrived at as to what particular branch or branches of market gardening is to be followed. This should be largely influenced by circumstances, such as the capital available, previous experience, and the particular bent of the individual. I ought, perhaps, to have made it individuals, as it frequently happens two or more men join forces; but these partnerships do not always work well, and frequently end in an early dissolution. According to my experience, the most capital is required by those who meditate building glazed houses extensively. Starting with two or three fairly long houses, costing, say, about £200, does not look like making a fortune within a reasonable period. It is true, we hear of instances where men have annually added more glass out of the profits made with those first erected, and are told by builders' canvassers for orders that houses will pay for themselves in a single season. A grain of salt should, however, be taken with such tales, though much might be done towards gradually enlarging by those who have an income or enough to live upon derived from other sources. A few small houses can be turned to good account by those who contemplate, or are fairly certain of obtaining, a good retail sale for bedding and other pot plants, Tomatoes, and the like, and who also anticipate getting a fair share of local orders for bouquets, memorial wreaths, and the like, but they do not count for much when growing solely or principally for the markets is concerned. It cost £1,500 to start a moderately large market garden with houses in this district (Frome), and another £300 at least would have been required if a dwelling house had to be provided. It is true the land, being in close proximity to a town, was expensive, but this cannot well be avoided by those who are anxious to do a retail as well as a wholesale trade.

Nearness to towns has its advantages and disadvantages. The advantage of having a good water supply cannot well be over-estimated. Placing reliance on what can be caught and stored is but a poor reed to lean upon. It is true the tanks, thanks to a great roof area, fill rapidly in wet weather, but as a rule, when most water is required the rainfall is of the lightest, and a few thousand gallons stored in tanks are soon exhausted. Sinking wells and providing a pumping apparatus to force the water into a raised tank to get the pressure for quick delivery is both expensive, and at times also unreliable, and personally I much prefer an unlimited supply of "town" water at 7d. to 9d. per 1,000 gals by meter to the other alternative. Nearness to a town means more local orders than can be obtained in the country, also cheaper manure; and nearness to a railway station is equally desirable. Moreover, in the country land is much cheaper, and the rates and taxes are considerably lower, and labour is not so expensive. Let me warn those who start near to towns against doing so with only a little, if any more land than they intend to cover with buildings of various kinds. One or two acres of land adjoining will always be found of the greatest assistance, especially if Chrysanthemums, Roses, bulbs, and other popular flowers in pots or boxes by the thousands are to be prepared for the houses in winter. Breadths of Violets, Carnations, Sweet Peas, Gypsophila, Grasses, Strawberries, and the like are also profitable, and the extra land affords a good opportunity for changing soils—one of the best aids to successful Tomato culture. If land is rented it should always be made a signed condition that the occupier is to have the option of buying at a stated price when prepared so to do; otherwise building on it is a risky proceeding. It is very satisfactory being located on one's own freehold, but this sometimes means locking up a certain amount of capital badly wanted elsewhere. With regard to the work of constructing houses, I can only express the opinion that local builders use inferior material and are slower and dearer all round than are the orthodox horticultural builders. Remember that slow construction may mean the loss of the best part of a season, quite spoiling the first year's returns.

Before erecting houses it should first be decided what is to be grown in them, due regard being paid to the possibility of a change proving necessary later on. Tomatoes have been largely responsible for much of the house-building that has been started in the majority of market gardens, and luckily these can be grown successfully in houses that are suitable for either Grape, Peach, Cucumber, or plant culture, and the plans may be made accordingly. The earliest crops of Tomatoes may be grown in span-roofed houses, about 12ft wide, and the same class of houses, if thoroughly well heated, answer admirably for Cucumbers. These houses are also good for Melons and for forcing bulbs, Lily of the Valley, Spiræas, and Strawberries. Fourteen-foot-wide span-roofed houses are good for second early Tomatoes, Figs, Peaches, and Nectarines, trained over the roof; early Grapes, Palms, Ferns, Chrysanthemums, Arums, Roses, Carnations, and Cyclamens—the two last on temporary standings. Houses (span-

roofed still the best), 20ft to 30ft wide, with glazed sides from choice, are good for main crop Tomatoes, Peaches, and Nectarines on cross trellises or tall trees in pots, Grape Vines, Chrysanthemums, large Palms, and for forcing bulbs generally. Maidenhair Fern is also profitably grown in comparatively large houses. While the soil is fresh and the houses new, Tomatoes would appear to give the best returns, but both soil and houses become sick of Tomatoes in time, and it is then when a change of crops is desirable. Why not change the soil? some of my gardening friends will say. That is easier suggested than carried out; changing the soil in houses 125ft or more in length and 14ft to 30ft wide being a very large order indeed, and quite a different matter to changing the soil in the small houses found in most private gardens. So also is growing Tomatoes by the thousand plants very different to cultivating a few dozen, and those who base their calculations on what they have done with these small numbers of plants are sooner or later bound to be disappointed when balancing accounts. The personal attention bestowed upon a few plants cannot often be given to hundreds or thousands, as the case may be. It will also be found that directly any kind of plants, and Tomatoes in particular, are grown in near proximity on a large scale, it is then when diseases and insect pests have to be reckoned with. Get rid of one and another quickly takes its place. As Mr. Nicholson, late of Kew Gardens, once suggested to me in a conversation on the subject, these diseases and pests are "Nature's provision against over-production," and it is very certain but for the troubles in the form of diseases rather than insect pests, Tomatoes would be so very plentiful on the markets as to render them quite unprofitable.—W. IGGULDEN.

(To be continued.)

The Awakening of the Auricula.

The time of the arousing of the florists' Auricula from its winter's rest has come. The rest appears to me to have been shorter than usual, as the plants retained their leaves right up to the first week in December, and that in a cold house on a north aspect. It may be said of the Auricula, as the Rev. F. D. Horner points out in one of his admirable papers, that there are two seasons of rest, and two of activity. The two restful periods are the depth of winter and the height of summer; very opposite in themselves. "The appearance of the plant at each is very different, but its condition is much the same—one of rest. In December its quietude is that of preparation for the transformation scene and full display of spring; and though scarcely a movement is perceptible in the few stout, short leaves that form its frost-proof winter habit, yet it is busy within these leafy curtains in forming the leaves and flower buds of its blooming period. Just as the Tulip bulb, also in its time of rest, is invisibly to our short, slow sight making a like preparation within its folded heart." There is no actual suspension of vital force.

It used to be the practice to top-dress the plants at this season of the year, removing the surface soil, which was regarded as exhausted, and replacing it by something new, fresh and rich. Well established and well rooted plants, potted in June or July in a suitable Auricula compost, will have filled the surface soil with their fine roots, and there may be some risk in disturbing them. If the pots are not full of roots, it may be assumed that the plants have not exhausted the food supply of the soil in which they are growing, and top-dressing is unnecessary. But if there is a suspicion the surface soil is sour and soddened, then it should be removed; but as there would be reason to fear the soil throughout was in the same condition through imperfect drainage, it would probably be the best course to repot the plant, reducing the ball of soil about the roots as little as possible, and repotting it in a pot only just large enough to take it.

Clean surroundings and fresh air are two important considerations just when growth is commencing at this season of the year. In giving air to the house or pit in which the plants are staged, it is well to take care that cold blasts do not fall directly upon them. A little forethought can prevent that. During March and April there is likely to be a prevalence of cutting easterly and north-easterly winds, and the plants should be guarded from such. If the house be entirely cold, and the weather dull and sunless, it may be kept close altogether while piercing northerly winds abound. In brighter weather some air becomes necessary. It is, no doubt, a great advantage to give the Auricula as equable a temperature as possible during the winter and early spring months. That is why it is the leading exhibitors of the edged and self show sections have their plants in houses to which a gentle fire heat can be applied if necessary. Not that anything in the way of forcing is attempted, that would be fatal to the plants in all probability; warmth is called into use only to continue the plants in comfort, free from changes of temperature as far as possible.—R. DEAN.

Gunnersbury House, Acton.

On the afternoon of February 13 the students of the Royal Horticultural Society's gardens (Chiswick) had the privilege of inspecting the fruit houses and grounds of Gunnersbury House, Acton, Middlesex, a demesne of Leopold de Rothschild, Esq. Conducted by Mr. Hudson's foreman (Mr. Camp), we passed through the propagating pits and Orchid houses, where Dendrobiums were being dried off and Cattleya Mendeli was noted to be doing particularly well, and entered the early Strawberry houses, which had been started about November 7. Hopes were expressed of picking in about three weeks, that is, about the first week in March. These houses have step stages, and are particularly adapted to the culture of the luscious fruit. The varieties which are grown here are Black Prince, Keen's Seedling, La Grosse Sucrée, and Royal Sovereign. Entering an adjoining early vinery, Black Hamburgh and Royal Muscadine (in 12in pots) were seen nicely in bloom, while St. John and Pingo de Mel Figs, in same sized pots, sunk in heated leaf beds, promised well for yielding fruits at the beginning of March.

From here we went to the ranges of stone fruit houses, each compartment being about 16ft by 10ft by 20ft, and are fine, light, airy structures, and present a beautiful sight, the trees being splendidly furnished with blooms, which appear to be setting satisfactorily. Peaches Early Beatrice, Stirling Castle, Dr. Hogg, Duchess of York; and Nectarines Cardinal and Lord Napier, with Plums Jefferson's and Early Transparent; also the lesser known Thomas Rivers, are some of the varieties noted in 10in and 12in pots. Stanwick Nectarine, although a picture as regards the blossoms, does but poorly here, as Mr. Hudson remarked, and is simply grown for its useful and abundant pollen. Cherries, in another house in this same range, were just bursting their buds, but promised a bountiful crop from the well-ripened wood, thickly set with buds. The majority are in pots, but a few (Bigarreau de Schrecken) are in borders on either side. The pot varieties include Empress Eugénie, Governor Wood, Belle d'Orleans, Early Rivers, Early Bigarreau, and May Duke. In a lean-to close by we saw a very fine tree of Lord Napier Nectarine, every branch finely set. It has borne good crops for years, and last year one of its largest fruit measured 13in in circumference and was one of a crop of about 250. In a latter vinery (also a lean-to) fine canes of Ferdinand de Lesseps, Lady Downe's, and Madresfield Court Vines were breaking well, and as they have lately been planted in a newly constructed outside border, good crops may be anticipated for years to come. The fine wood on some young canes in an adjoining house were worthy object lessons of the wise practice of closely rubbing out all laterals throughout period of growth, which has here yielded last year's wood $\frac{3}{4}$ in in diameter. As there are on the establishment about 500 pots of Figs and 1,000 pots of stone fruit trees, it can be well credited that there was much to learn on this phase of culture from a visit.

Amongst other things of interest in the houses were Camellias in full bloom; Melons, specimen Pelargoniums, and Fuchsias; besides some fine pots of Hymenocallis macrostephana, the sport from Lorraine Begonia, Mrs. Leopold de Rothschild, which were just finishing flowering. The Javanico-jasminiflorum Rhododendron Monarch and R. luteo-roseum were doing well in same house; and R. Cloth of Gold, that great favourite for its delicate colour, was also a feature. Vanda Sanderiana and Begonias Corallina and President Carnot were represented in the stove by fine specimens. Dracenas and Crotons were clean, the latter being under the process of stem rooting. Laurya campanulata, an interesting plant belonging to the N.O. Liliaceæ, and much resembling the Aspidistras, was also flowering here, the spike being produced, as it were, directly out of the ground at the base of leaves. The petals are white with a black disc; the fruit is eventually a blue berry. This plant was imported directly by Mr. Hudson.

In a specially constructed water pit we saw the Nelumbiums, or Water Beans, of which there are several varieties. Later in the season they occupy one of the fruit houses, and attain heights of at least 6ft. The Banana (Musa Cavendishi) was fruiting on nice dwarf trees, and yearly a good supply of this wholesome fruit is provided from a collection of these plants.

In a disused wine cellar, lighted by electric light, are Mushroom beds in constant bearing, and we saw all stages of the cultivation, from the manure in heaps ready for making into beds to the beds in actual bearing. Before leaving we viewed the Japanese garden, which was constructed just a year ago, and in which hardy Bamboos (in one case forming quite an avenue), with Palms and many very choice plants, are now flourishing. Lilies, Monbretias, Water Lilies, in the miniature ponds and streams, are splendid features here in summer. The large Bamboos forming a bridge in this Japanese garden were grown at Syon House. With this last item our tour ended, and we left the gardens carrying away exceedingly pleasant memories.

—C. H. BUCK.

NOTES

NOTICES

Flowers from the Parks.

In the Glasgow Town Council, on February 20, Mr. Scott Gibson resuscitated his well-worn insinuation against Mr. Cleland as to his having got flowers and plants from the public parks for concerts and churches with which he was connected. Bailie Bilsland, convener of the Parks Committee, said he knew of no such thing, and stated that the committee were indebted to Mr. Cleland for a valuable case of Orchids. Mr. Cleland made an emphatic denial that he had ever got flowers or plants from the parks for private or personal purposes.

Orchard Planting.

One result of the present shortage of English fruit is to be seen in the avowed intention in many quarters of a very large extension of Apple and Pear tree planting. On every hand we hear of the scarcity of planting stock, nurserymen being at their wit's end to supply a demand which is not yet over. Those growers, says the "Fruit Grower," whose land is in condition, will still be in time to continue their planting operations, and we believe that a distinct development in fruit-tree culture will date from 1901. It was the first year of a new century, and of a new reign, and if it also proves the first year of an intelligent development in fruit-tree culture it will be a year to be remembered.

Royal Horticultural Society.

The next Fruit and Flower Show of the Royal Horticultural Society will be held on Tuesday, March 25, in the Drill Hall, Buckingham Gate, Westminster, 1 to 5 p.m. A lecture on "The Defences of Plants" will be given by Professor Carr at 3 p.m. * * At a general meeting of the Royal Horticultural Society, held on Tuesday, March 11, fifty new Fellows were elected, amongst them being Lord Hillingdon, Lady Millais, Lady Margaret Douglas, Major H. A. Cummins, Major L. H. Prioleau, and Captain W. O. Cantley, making a total of 305 elected since the beginning of the present year. * * At the Narcissus Committee, on Tuesday, March 25, a discussion will take place on the Daffodil fly, Merodon equestris.

Horticultural Club.

A delightful evening was spent at the Club on Tuesday last, the occasion of the monthly dinner. In the absence of the chairman, Sir J. T. D. Llewelyn, Bart., the chair was occupied by the vice-chairman, H. J. Veitch, Esq. Amongst those present were the Revs. W. Wilks and F. R. Burnside, Messrs. C. E. Shea, G. Monro, G. Paul, Chas. E. Pearson, J. Assbee, J. Walker, Amos Perry, W. J. Jefferies, P. R. Barr, R. W. Wallace, H. E. Molyneux, R. Sydenham, Shoults, J. Hudson, R. C. Notcutt, J. H. Pinches, and E. T. Cook. After dinner a discussion was opened by Mr. Chas. E. Pearson, whose subject was "Bird Life in Relation to Horticulture," a bright and interesting paper. A vote of sympathy was passed with Mrs. Selfe-Leonard in her recent sad bereavement. Dr. Henry will be the guest of the club at the next monthly dinner on April 8th.

Planting Apples and Pears.

When dry, cold, and, perhaps, windy weather has sufficiently dried the surface of the soil prepared for spring planting fruit trees, the trees or bushes may be planted. They must not be exposed to the drying influences of the weather, so that the roots are parched and withered by lying about. Immediately the trees come to hand lay them in by the roots in moist soil until a suitable time arrives to plant them. At the required distances for planting take out wide and shallow holes. Place in the trees, first pruning smoothly any damaged roots, and lay the latter out in layers to their full extent, covering each layer with some prepared loamy soil mixed with wood ashes, and make firm. Tall standards must be staked firmly at the time of planting, as disturbance of the roots by wind is fatal to the trees becoming quickly established. Wall trees planted now ought not to be secured permanently in position at once, but when the soil and roots have settled well into position so that there is no further sinking.—S. D.

Early Irises.

From Messrs. Kelway and Sons, Langport, Somerset, we received a delightful bunch of *Iris reticulata* major at the end of last week. No flowers are more beautiful at this early season of the year. When once established in suitable soil these Irises grow luxuriantly.

Weather in the North.

From the 10th to the 17th inst. has been a week of very fine weather for the season. Clear and dullish days have alternated, and on three mornings frost of one, two, or three degrees was registered. Occasionally cold N.W. wind has prevailed, but generally westerly wind and drizzly showers have pleasantly varied the day, with now and then heavier rain during the night. —B. D., S. Perthshire.

Appointments.

Mr. Frank L. Follwell, for the past four and a half years foreman in the gardens at Foxbury, Chislehurst, as gardener to Chas. Morley, Esq., M.P., Shockerwick House, Bath, entered upon his duties February 10. * * Mr. A. Shadbolt, for the last three and a half years general foreman at Bessborough, Co. Kilkenny, and formerly at Hatfield and Mentmore, as head gardener to the Earl of Selborne, Blackmoor House, Petersfield, Hants.

Swanley Horticultural College

The report of the Horticultural College at Swanley shows that last year was a year of marked improvement in its general operations. A new range of substantially built glass houses was completed, and the botanical garden and students' plots were considerably enlarged. By these alterations students can now continue a second year at market garden work, and thus more fully complete the course. When funds admit, further improvements will be attempted, especially in connection with the library and laboratory accommodation.

Very Early Potatoes.

A much-respected correspondent sends us the following cutting from a recent issue of the "Irish Times": "The 6th of March is usually considered an early date for planting Potatoes in this part of Meath. Sauntering along the brow of a hill, I descried in the adjoining hollow a tenant farmer and family busily engaged in spade labour. Quickening my pace, I descended to view the good work and compliment the industrious. With visions of Potato boxes filled with sprouted tubers, I realised the great benefit of the leaflets distributed by the Department of Agriculture. Suddenly I stopped, and retraced my steps to think of other things. My congratulations have not reached the workers. They were digging last year's Potato crop.—OBSERVER."

A Unique Collection of Butterflies.

South Kensington Museum will shortly be enriched by the addition to its treasures of the finest collection of butterflies and moths in the world. Lord Walsingham, who is a trustee of the British Museum, reports the "Daily Mail," has made over to the nation his magnificent assortment of microlepidoptera, which for more than thirty years he has been engaged in acquiring from every country under the sun. At present the collection, which contains more than 200,000 specimens, is encased at Merton Hall, Lord Walsingham's Norfolk seat, but as soon as possible it will be placed in its new abode, where it will entirely transform the appearance of the insect section, to which butterflies and moths at present contribute but scantily. The Walsingham collection is not only the largest, but also the most important, in a historical sense, in existence. It includes amongst others the famous Zeller collection, and also those formed by Hofmann and Christoph, so that the magnitude of the gift can hardly be exaggerated. The specimens embrace many of the originals selected as standard types by various authorities who have written on the subject. Lord Walsingham himself has issued numerous monographs and papers on this his favourite study and pursuit. The importance of the gift to the natural history student is obvious. He will be able to follow all the recognised text-books on lepidoptera by reference to the actual specimens, in many cases, from which the authorities made their observations and deductions, while the ordinary visitor will be charmed by the almost countless varieties of beautiful form and colour which the collection comprises. It has not yet been decided whereat in the museum the collection shall be placed. The room in which the present specimens repose is quite inadequate for the reception of such a large addition.

Gardeners' Royal Benevolent Institution.

The sixty-third anniversary festival of the above will be held at the Hotel Metropole, London, on May 28, when his Grace the Duke of Marlborough has kindly consented to preside.

Gardening Scholarship.

A scholarship at the County School of Horticulture, Pymmes Park, Edmonton, of the value of £25 for one year, and renewable for a second year, has been awarded to Leonard M. Young, of 51, Leicester Road, East Finchley, N.

Royal Parks and Gardens.

The First Commissioner of Works has promoted Major William Clive Hussey, late Royal Engineers, assistant bailiff of the Royal Parks and Gardens, in the room of Colonel Moreton John Wheatley, C.B., late Royal Engineers, who has retired on attaining the age limit.

Solitaires in Landscape Gardening.

In "Meehans' Monthly" for March the writer of an article on a feature of landscape gardening uses a new expression to describe specimen trees. He calls them "solitaires." This application of the word seems so appropriate for a perfectly formed solitary tree in a landscape setting that it might well receive general adoption.

Examination in Horticulture.

The Royal Horticultural Society's annual examination in the Principles and Practice of Horticulture will be held on Wednesday, April 23. Intending candidates are requested to send in their names to the Secretary, R.H.S., 117, Victoria Street, London, S.W., as early as possible. A stamped and directed envelope must be enclosed with all communications requiring a reply.

Hardenbergia Comptoniana.

The Hardenbergias are reputedly free-growing, or free-flowering climbers. For the roof of a greenhouse or conservatory, or for a pillar in the same, they are frequently in demand. The species we figure on page 253 is a very handsome member and a vigorous grower. The pendulous racemes are brilliant blue. Any good greenhouse border will suit this plant, the culture being similar to that of the Kennedias. Care should be exercised to keep the foliage clear of insects, particularly mealey bug. Little pruning is requisite except to remove the old bare or weakly shoots.

Agricultural Co-operation.

It is proposed to hold a conference at Warwick Castle on May 1 next to provide an opportunity: (1) For those directly engaged in any other lighter branches of agriculture or rural industries to make known their work; (2) For those who are interested in the things pertaining to the welfare of our country districts to learn what is being done to stay the rural depopulation; (3) For an interchange of ideas and sympathetic suggestions between those engaged in allied industries; (4) For those who need teachers or trained workers to meet those who are fully trained and capable of teaching others; (5) For the binding of all these in one strong organisation for co-operation and co-ordination. It is therefore hoped any who are interested in the objects for which the conference is called, and who wish to learn fuller details of the programme of the discussion, as also of the hospitality to be offered for the occasion, will write for particulars to the Warden, Lady Warwick Hostel, Reading, or to Lady Warwick.

Scilly Flower Trade: Record Export.

The quantity of flowers exported from Scilly on March 11 eclipses all previous records. One steamer was found unable to carry them, and two vessels left for Penzance laden with 48 tons of Narcissus and Daffodils. This is 7 tons more than the shipment of the week before, which was the previous record export from the islands. All Scilly has been working at high pressure during the last ten days of fine weather but without success. The flowers come out in such quantities that it is impossible to cope with them. The schools are closed, and the children have been "commandeered" for the work, but still the flowers cannot all be gathered. One large grower sent upwards of 1,000 boxes. Each box holds about 500 market bunches. This is the output since Saturday of a farm not much larger than a fair-sized English field. If the weather keeps as at present thousands of flowers will most likely be left to rot in the fields, for prices are bad and men cannot keep working day and night. We may observe that these Scilly flowers do not last long when brought from the retailers.

Hardy Flowers.

While we delight in the search for novelties among the hardy flowers, it does not do to neglect those which have inhabited British gardens for many long years, and have given pleasure to many generations of kindred tastes to ours. One likes to think of the gentle women and the thoughtful men who have looked upon these old flowers with like pleasure to ours, and an old flower has thus attractions greater often than its mere intrinsic value would bestow. Among the old flowers which have found a home in our British gardens is *Clematis integrifolia*, a very distinct hardy plant of non-climbing habit, and one which

climb. The leaves are a pretty green, and the flowers are rather bell-like in form, with a "boss" of white seed plumes in the centre of the deep blue flowers. There is a scarce white form. The root-stock is very hard, and not easily divisible, except by lifting the plant and cutting through with a spade. This rough treatment appears to injure the plant little, except that it is not over-fond of removal, and may be dwarfer for a year or two afterwards. Any soil will grow it, and it thrives well in sun or partial shade. We have really no plant like it in summer when it blooms.

This note may not be inappropriate, as it seems as if this flower had a future before it as one of the parents of a class of non-climbing Clematises which should be most valuable in the borders. This season seeds of *C. integrifolia* hybrids are being offered, which are said to give plants of practically all the colours



Hardenbergia Comptoniana, racemes brilliant blue. (See page 252.)

generally excites the interest and admiration of those who have not seen it before. Nay, it frequently does more, for a wish to possess it usually follows—a wish we who grow it cannot always satisfy, inasmuch as it is not a plant which is readily divided at any time. It was known in our gardens as long ago as 1596, and survived in many old gardens by dint of its hardiness, the wave of neglect which swept away so many good old flowers.

Maund figured it in his "Botanic Garden," but in saying that it grew 2ft high he was below the mark, as it grows considerably taller, and even in a light border here grows to 4ft or so, and I have seen it from 4ft to nearly 6ft high in stronger soils. It is strictly of herbaceous habit, so far as my experience of it goes, which is not a limited one, and requires support against wind, although naturally an erect grower without any tendency to

in the genus. The prospect is an attractive one; but it is increased by hearing that Messrs. Jackman and Son have also engaged in hybridising this species with the Jackmanni section, and that they are hopeful of success. *C. integrifolia* is so easily grown that a race like it, but with larger flowers, would be of great value in any garden.

Kitalbella Lindemuthi.

Plants with variegated leaves require to be used with considerable discretion and caution in the border, but that they have a part to bear in the decoration of the garden only a few will deny. Although I know not this plant as yet from practical experience, it seems to be a novelty of considerable interest, and one of which readers of the Journal may like to know. Its

interest is increased by its origin, which gives it the character of being one of the few graft-hybrids we grow in our gardens. It proceeded from grafting *Kitaibelia vitifolia* upon *Abutilon Thompsoni*, with the result that the graft-hybrid has its leaves prettily marbled with yellowish white, and yellow along with green, having apparently taken this feature from the well-known *Abutilon*. *Kitaibelia vitifolia* is a little-grown Slavonian plant, growing from 6ft to 8ft high, and having vine-shaped leaves and white or rose flowers. *Kitaibelia Lindemuthi*, which has been named in honour of its raiser, Mr. H. Lindemuth, of Berlin, is said to grow from 6ft to 9ft high, and to be perfectly hardy. An illustration before me represents an effective plant, which might be of service in the garden. I hope to give it a trial this season.

Primula marginata.

Among the chaos of *Primula* names and contradictory authorities, it is a pleasure to see a few whose recognised cognomens seem undoubted, and which are, at the same time, easily grown—not a characteristic of all the *Primula* species. But for the risk of confusion with *P. Auricula*, var. *marginata*, a totally different plant, those who order *P. marginata* from a nurseryman are either sure to get it or else the vendor is ignorant of the plants he sells. It is a remarkably handsome and distinct little plant, whose small flowers (although larger than those of many of the species) are produced so plentifully as to make up for their want of dimensions. Yet I am not sure if we ought to admire it principally for its blooms, for its leaves are so pretty with their delightfully silvered margins that they look charming at any time. The pretty violet-purple flowers are, of course, always welcome when they come at their wonted season—in spring. It is such a regular bloomer, when in a suitable place, that it has many claims upon us.

The flowers vary in colour and size. Major, *grandiflora*, and Dr. Douglas' varieties are all good, but I find that most people prefer the bluest of the set, one called *cærulea*, which is very pleasing, and quite blue in its tints. Those who think a blue Primrose unnatural will find in this form of this wilding of the Continent a proof that the colour seems present in the family in a wild state, as well as when introduced through Mr. G. F. Wilson's perseverance. It is one of the privileges of this *Primula* species that it is easy to grow, and that its habit is such that it does not require either the glass protection in winter needed by some of the species or the annual replanting of others. It naturally grows with its stems above the soil, so that it will not suffer if not top-dressed or replanted for several years. It is thus a good rockwork plant for positions where these cultural details cannot well be attended to. It makes offsets pretty freely also, and thus the pretty little *Primula marginata* is one of the species most to be prized in our gardens.—S. ARNOTT.

Culinary Vegetables.

Young Carrots.

In the spring, or, rather, at the present season, the time-honoured manure bed is requisitioned for the forced growth of Carrots, to replace those we have grown accustomed to during the winter, and which, by that time, will be getting old and indigestible. There is nothing unusual, it is true, in the frame growth of Carrots; but what I intended to bring forward was the small tender root obtainable without forcing or frame protection in the open ground all winter from sowings made in autumn—August and September. The custom obtains such a strong hold on the garden routine to sow for an early crop outdoors, and then for winter, or main crop, to put a lot of ground into occupation with, it may be intermediate, or other of the bigger-rooted Carrot. There is certainly a necessity in making due preparation for these roots in a proportion to their demand, but I have myself lost touch somewhat with the practice of sowing a large breadth in spring, and making these do for so many months. In the interchange of cropping throughout the summer, there often occur vacant plots that can be put to use for Carrots after they have borne an earlier summer crop. When a sowing is at once made at the end of summer on ground cleared of Potatoes, Cauliflowers, or such like, and free from weeds, small, delicately flavoured roots are available in the winter, much more edible in flesh, and much more appreciated than the coarser root for use as a vegetable. For the purpose of flavouring, which is the fate of Carrots generally, the larger varieties and earlier sown beds afford the right material. It is a custom with some gardeners to make this late summer sowing a portion of the routine, and it may be done by many others as an augment to the general crop, and to afford, too, a change of the kitchen "stock." Some gardeners take a great pride in the growth of fine shapely Carrots, but when one thinks of their destination, and the commonplace appreciation placed on them when, in their final state, they help to fill the "stock pot," there does not seem much, after all, to give rise to such ambitions.—W. G.

Onions.

On wet and heavy soil it may have been impracticable to have sown the Onion crop. If a sufficient dry surface is now available break up the surface and remove all rough material. Level and work into a fine tilth, then sow the seed thinly in shallow drills 12in apart. Where Onion seed has been sown in boxes the seedlings will now be growing. They should be afforded a light and airy position in a cool house or frame. Plant out the autumn sown Onions in rows a foot apart, 6in being allowed between the plants. Select a piece of rich ground. Plant with the roots straight down, but do not bury the bulbous parts too deeply.—G. R. S.

Tomatoes.

As seedlings become strong enough pot them off singly or place round the edges of pots to strengthen. Move established plants in small pots to larger before they become root-bound. Give all the lightest possible positions, with a free circulation of air and sufficient heat to induce free growth. For heated houses the strongest plants must be planted out in borders or in pots. Confine each to one stem. If grown in pots make the soil very firm round the balls, and leave plenty of room for future top-dressings of rich soil, commencing when the plants begin to fruit. For borders little soil should be allowed to commence with. Additions can always be made with advantage to their progress in growth and fruiting.—S. G.

Planting Potatoes.

As opportunity permits, all the second earlies and main crop Potatoes may now be planted. In light, fertile, pulverised soil draw the drills 4in to 6in deep, and place the sets along the bottom at not less than a foot apart, having the drills 2ft asunder for varieties that do not make much top. Those of medium strength require 2ft 6in, while the very strong-haulmed late sorts must have 3ft. In some cases it may be desirable to place the majority of varieties in rows at the maximum distance between, so that winter greens can be planted conveniently and occupy the ground after the Potatoes are dug.—P.

Crossing Among Peas.

A correspondent to the "Morning Post" writes: "I know little about botany, and am therefore uncertain whether the following occurrence is rare or common. To me it seems unusual. Last summer the owner of a certain garden in Surrey grew a large number of Sweet Peas. In one case they were near to the place in which he grew his edible Peas. When the Sweet Peas began to produce pods these were found to be unusually large, and on being opened were seen to contain peas which looked as if they might be edible. When the pods had ripened and the seeds were collected they proved to be almost twice the size of Sweet Pea seeds, and of a dirty yellow colour. Presumably there had been cross-fertilisation."

Green Mint.

New Potatoes have their flavour accentuated by the use of Mint in their cooking, which in spring, or, rather, the summer, becomes an everyday necessity, but in the early days of January, when these Potatoes were raised from their state of rest, the thought of Mint suggested itself without premeditation, and search was made for green leaves with, it must be said, a forlorn hope, but with the happy result of finding the unexpected. It is often a custom to force Mint for early winter use, but only when the demands of the kitchen require it. That Nature should have been so accommodating at so inopportune a time is deserving of acknowledgment; but so it was, sufficient green tips were forthcoming from the outdoor bed to give the desired flavour to the dish. With such alternative weather as that experienced during the past autumn and winter, it was not a little surprising that green growing tops should have been available at mid-winter.—W. S.

Fruit in California.

From 10 to 15 million dollars worth of fruit products are yearly shipped from Southern California, a country which was in many places almost a desert until water was applied to it from its numerous streams. There are still large tracts west of the Missouri River, observes "American Gardening," amounting to millions of acres, which are awaiting development through the application of water. In time these lands will be the homes of large populations adding their share to the business and development of the country, when the rivers which run through them are used to make the land fit for agriculture and life. Many of these streams are now being studied by the hydrographers of the U.S. Geological Survey, as a part of the water resources of the whole country, and the facts concerning their flow and high and low water conditions are being collected, which will be needed as demands are made upon their waters for the development of the adjacent lands. These are hints for our South African colonists.



Chrysanthemum, Lily Mountford.

I suppose that, after all, it is immaterial who was the raiser of this variety, about which comments have appeared recently in the *Journal*, from Messrs. Wells and Weeks. Until now, Mr. H. Weeks has not publicly claimed it as one of his seedlings. I am not going to dispute the statement which he makes on page 210, but in defence to my previous letter, I may say that I know of a gardener who, in as explicit terms as those of Mr. Weeks, does claim to have raised the variety from seed imported from Japan in 1894, and he still sticks to this statement. I do not think that Mr. Weeks is justified in hinting that I have asserted that the variety in question is a sport of Mutual Friend. I have always disputed this statement. One thing is remarkable, and that is the number of times Miss Lily Mountford has been sold before being finally offered to the public. Can Mr. Gleeson, who is responsible for introducing this variety, throw any light on the parentage?—W. J. GODFREY, Exmouth.

Wrong Nomenclature.

Wrong nomenclature (p. 243) is *very* wrong, and the worst of it is we are never quite certain nowadays when it is wrong! *Richardia africana* presents a very glaring example of how a beautiful plant may be defrauded for centuries of its rightful designation, and, worst insult of all, when people know it they continue naming it improperly. I daresay not a few have inquired why a plant unknown so far north in Africa should yet be described as a native of *Æthiopia*; and we have to seek the reason in times when the geography of the Dark Continent was so little known as to be almost an indescribable quantity. Parkinson, explaining the reason as long ago as 1629, says plants coming from south the Line were called *Æthiopian*; and it is therefore not singular that most of the first Cape plants carried that description. But these are as nothing to the plants that are "improperly" called Lilies. I find I have a list of about seventy so-called Lilies, a goodly proportion of which are now known by other names. Personally I have no dislike to the name. As one for everyday use what better could we have, for instance, than Lily of the Valley, *Eucharis Lily* or *Arum Lily*, and in the case of some plants that have dropped the name, as, for example, *Agapanthus*, *African Lily* is much more to my taste. The word is a delightful Old English one employed with a very wide meaning, and I for one would not like to see its use restricted to the genus, *Lilium*, any more than *Rose* to the true *Roses*.—B.

A Fortunate Gardener.

We notice among the munificent bequests of the late Mr. James Dick, of Armathwaite, Pollokshields, Glasgow, that his gardener, Mr. David Nicoll, has been left the handsome sum of £1,000. Mr. Dick was one of our wealthy princes in the great north-western metropolis, and has bequeathed, besides the £5,500 for household servants, the very handsome sum of £100,000 to his employes connected with the firm of R. and J. Dick. Other large bequests have been made to institutions throughout the country. Everyone will applaud the disinterested motives of a gentleman so inclined to place his dependents in comfortable circumstances, as well as for the judicious course he took in distributing his wealth. That Mr. Dick was possessed of qualities that are rarely to be discovered among our men of wealth is very evident, and that he also had a wider capacity for sympathising with his fellow creatures who honestly served him, goes without saying. Such an expression of acknowledging the services of his workers at once claims for his memory the very highest eulogiums, and doubtless were more of his spirit among us, the strained relations unfortunately so common existing between employer and servant would be less in evidence. We have no desire to be in the least degree considered as sympathising with the Socialists' religion, for that is what we are inherently opposed to. Nevertheless, we must say this much, that whether the individual has devoted his best days to the services of his country or otherwise, he ought in some measure be compensated in a manner at least to ward the wolf from the door, when, alas! he may no longer be able to do aught for himself. Long and faithful service undoubtedly deserves acknowledgment, and the employer who wisely does so is not only doing his duty, but is also the recipient of the blessings of God and man.—D. C.

Zinc Labels.

I have long found these best in every respect, whether for pots or the border, I get a thin sheet of that metal, paint it over with white paint, with a strong pair of old scissors cut them out the requisite shape and size, and write the name of the plant boldly, with a black-lead pencil. A single coat of paint, when necessary, makes them as good as new.—Q.

The Praise of Horticulture.*

Right gladly, Mr. Editor, do I join your veteran correspondent in a brief and cheery letter on the occasion of your Spring Number. After the wearisome three weeks of continuous frost, we gladly hail the resumption of garden work, as each of earth's offsprings coyly peeps through her teeming bosom. Now comes our opportunity. We must bestir ourselves, taking an occasional peep into our *Journal*—if inexperienced, for timely enlightenment; if well-informed, or experts, for friendly interchange of opinions—a pantry, richly stored, in every corner, with food necessary for the horticulturist. For let not the supercilious imagine that we veterans consist of a sort of "Mutual Admiration Society" much given to the doctrinaire style! A glance at our *Journal* at once dispels the illusion. On the contrary, while technical subjects are academically treated, and find ample space for fullest discussion, the plainest treatment of fruits and flowers, their friends and foes, is observed.

But this brings me, like John Gilpin, to the middle of my letter. Now, how can I, Mr. Editor, finish better than in praise of horticulture? Never, I hold, can the subject be introduced too early in the curriculum of the young. Nature, then and always, is the best governess; indeed, we find it to be distinctive in most country-bred children. I am often aghast at the questions my six and eight-year-old grandchildren pose me with! Why, but why, this or that in wood or hedgerow? Ah! the pity of it! in the old-looking, brick-environed child of our populous towns, with just the same natural instincts, the same capacity, if early developed, for rural delights. "A Primrose by the river's brim, a yellow Primrose was to him, but it was nothing more."

Seldom do we find a taste for horticulture acquired in after life; and, as a matter of fact, even with the highest intellects, an almost omniscient Shakespeare, a Tennyson, and even a Wordsworth, the Interpreter of Nature, we see errors of description—"poetical licences," presumably! May I prophesy (always safe for a veteran) we should hear less and less of country clearances and grievances, of moral delinquencies, such as our good Bishops' Betting Bill hopes to cure, as an innocent and healthy taste for horticulture becomes more and more popularised?—HEREFORDSHIRE INCUMBENT.

Mr. S. H. Edwards.

While the pages of the Spring Number of the *Journal* are, as usual, full of interest, I greet with especial pleasure the portrait of, and the reminiscences of Mr. S. H. Edwards, the "proof reader" of the *Journal*. As an old contributor, I may express my peculiar pleasure at seeing the presentment of one who is largely our creditor for the careful work done in revising the proofs of one's articles, in which out-of-the-way plant names often occur. During the years I have written to the *Journal* I have only seen some two or three of the proofs of my articles, and I have often remarked to my friends upon the care with which the "reading" is done. Errors have been remarkably rare, and doubtless a good deal of this was due to the care with which Mr. Edwards "read" the productions. May he be long spared to continue his work!—S. ARNOTT.

[None can know better than the Editors the great assistance they have received in times past from the "old hands" of the composing staff of the *Journal*, and especially from "the doyen of the chapel."—Ed.]

Allow me to express my pleasure at the opportunity of being introduced to Mr. S. H. Edwards for the first time (*re* last issue of the *Journal*) both as a stranger and a respected old member of the staff. His life history, also, afforded me much interest in the perusal.—W. GARDINER.

The Bothy.

The subjects which will interest bothytes are not always easily determinable. Most probably the doings in the football world at the present time interest a considerable number, while cricket absorbs a lot of attention in summer. This is only natural to the active Englishman who is fond of sport, and this desire may be satisfied to a reasonable extent without causing any great neglect of important matters which call for cultivation as necessary for the equipment of a young gardener in his battle of life horticulturally. As regards sports and pastimes,

* This interesting letter was received from our old friend too late for last week's Spring Number.—Ed.

these diversions are more fitted for the younger members of the craft. When a man is becoming older the responsibilities of his charæ become more absorbing, and a desire to do justice to his work monopolises a large amount of his attention. To these I say football and cricket should not be gods to worship, but only indulged in occasionally as a break, and not at all unless specially fond of the games.

Gardeners, as a rule, obtain plenty of exercise, and it is not advisable that they should seek for too much, in a physical sense. There are other exercises which might be advantageously followed, and these, which ought to be of a mental character, are equally necessary for all who wish to succeed. Young men differ in their capacities and desires for following up any particular line of knowledge, but whatever the extent of that desire or capacity is, there is always room for development and improvement, whether it be elementary or advanced knowledge. I am not going to give a list of subjects which gardeners, as a rule, ought to have a knowledge of; but I would impress upon young men to organise something in their spare hours other than card playing, dancing, or the inveterate practising of so-called music. Legitimate entertainments or recreations are not for one moment to be deprecated, but let them only have a fair share of the young gardener's valuable leisure. Do not always give in to fancy, but cultivate the higher sentiments. It will be good for health and pocket and open up possibilities which might be realised. There are plenty of opportunities and means of studying available now, even if the young gardener does not feel the inclination to go deeply into subjects which may be considered essential.

One of the best means of improvement which is open to all young gardeners who live within a reasonable radius of a large town or village is to join a mutual improvement society, or form one if none exists. A large body of young men supporting such a society could materially help the executive to bring good talent among them whereby knowledge of exceeding usefulness could be diffused among them. The most illiterate would be interested and instructed, and all could gather something or impart something useful and acceptable. Let a society or body of men secure from the commencement a good leader or secretary, rally round him and support him in all his efforts to benefit the members as a whole, and it will be surprising how enthusiasm grows.

It has been said that horticultural societies cannot exist for long without substantial prizes for exhibits dangle before the members, but during recent years—only two years, in fact—one of the best and largest mutual improvement societies has sprung into existence mainly through the efforts of a most enterprising secretary. The example and enthusiasm of such a man is itself an education to the younger members who attend the meetings, but perhaps take no part in the discussions or otherwise. The work done by the society must be helping them, however, though they knew it not, and certainly they are helping all with whom they are in association by being members. In after years these things will bear fruit; therefore, I say to young men, Combine for intellectual improvement, and the gardening world will be richer and better therefrom.—KENTISH COB.

You have the thanks of most bothyites for opening the pages of the Journal for a discussion on the bothy. We know that bothies in many cases are not what they might be, and in the majority of cases the fault rests with the gardener. I know bothies that have been first class, but for the want of an occasional spring cleaning they have become anything but a credit to the gardeners who have charge of them. In a month or so we shall see a staff of painters at work on houses all round the bothy, but to get them inside there is out of the question. It seems the houses must be attended to, but the bothy doesn't even get a passing thought. The building itself may not be a very stylish affair; but it might be kept clean, for a couple of men with paint and whitewash can transform the appearance of a bothy in a few hours. The sleeping accommodation is also sadly neglected. I think that each should at least be provided with a single bed, if not the luxury of a single room. Again, what have we in the way of a bath? In the majority of bothies a bucket answers the purpose, and after a week "on the wheel," with the bathroom swinging on your arm, one makes tracks for the stove tank, which I think is the recognised winter bathing quarters. In summer you take your "Brighton" in the vinery tank. The next item on the programme, and an important one, too, is the bothy woman. A poor bothy and a woman to match are bad, but a bothy without a woman is—well, bad too. For my own part, I consider myself lucky, for, having passed through the hands of eleven, I can lay claim to know something about them; but with every fairness to the ladies, I have found them, with one or two exceptions, very good. Cooking seems the stumbling block of many. Take, for instance, a dinner, something after this style, and which I have sat down to more than once: Roast mutton, Potatoes, and Cauliflower (boiled together), and Sago pudding. You make for the mutton, and find it nearly half cooked, but by going half an inch deep all over, you get enough to serve. Then, spoon in hand, you make a desperate plunge at

the Cauliflower, and get a reminder, like opening the doors of a menagerie. You look round and find there is a vacant chair, the owner having done a sharp flank movement for the back. When he returns, looking very "choppy," he tells you he doesn't want any Cauliflower. So, with a "vengeance is mine" sort of feeling about you, you make for the second and last course, the Sago pudding, which is to make up for the other drawbacks; and when that Sago pudding turns out to be one of pearl barley—well, we will pass over what follows.

One other worthy I should like to speak of, and that is the doctor. When being engaged by some, particular stress is laid on the free doctor. You wonder why, but you are not kept wondering long. After a few meals like the above, you are only too pleased to make the acquaintance of that gentleman. The half-holiday on Saturday is always appreciated, and which, when given, one always works well for, and pays back in overtime duty.—A FOREMAN.

An Archway of Gourds.

In sheltered, sunny situations, ornamental Cucurbitaceous plants, as represented by varieties of *Cucurbita Pepo* and *C. maxima* grows exceedingly well, and, so far as our voice and pen can recommend these plants for ornamental uses on archways, pergolas, and columns, we will do so most heartily. On page 257 we illustrate a Gourd archway, from a photograph by P. A. Molteno, Esq., Parklands, Shicre, near Guildford; and our correspondent kindly sends a letter, which we print, as follows:

"I found it difficult to get anything to grow in the border where the Gourds are growing, as it was very dry and sandy. These conditions seemed to me suitable for the growth of Gourds. I made a light trellis, 5ft wide, 6ft high, and 64ft long. Lengthy rods were pressed into the earth on each side, and bent over so as to form an arch, with a connecting rod running along at the top, and a similar connecting rod on each side at the spring of the arch, was all the structure necessary.

"The Gourds were raised in the usual way, and planted out at the end of May. As soon as they began to run they were bound to the trellis, and as the warmer weather came they made very rapid growth, climbing freely up and over the trellis. The latter was soon covered with a fine green foliage, very handsome in the largeness of the leaves. There were from ten to fifteen different species (?). The fruits were of many sizes, shapes, and colours, as salmon, red, orange, variegated, black and white, green and yellow. The whole formed a very unique and interesting vista. Some of the fruits attained to a considerable size, as will be seen on an examination of the photograph. There were no difficulties to contend with. The well-drained sandy character of the soil was no doubt the key to the situation. I may say the garden is situated on the Surrey Hills, about 350ft above the sea level."

Most of the leading seedsmen nowadays are able to supply seed collections of Gourds. In choosing a spot in which to grow these plants, look first to shelter from violent winds, which frequently tear the large leaves to pieces in a few hours; and, secondly, to a good sunny spot. They are "greedy feeders," and no soil can be made too rich for them. Some of the common names of (1) Gourds, (2) Squashes, and (3) Pumpkins are as follows: Spanish, Orange, Warty-skinned, Swan's-egg, Apple, Melon, Turban, Grey, Boulogne, Miniature, Bicolor Pear, Brazilian, Sugar, Whale, White Pear, Mottled Pear, Umbrella, Gooseberry, White-egg, Citron, and Olive. All of the foregoing are names of varieties of Gourds (*C. Pepo* vars.). The best-known Squash is the warted one. There are various Marrows (also *C. Pepo* vars.) for mere ornamental purposes, as the Golden, Italian, Ribbed, Green-pointed, and Warted. Pumpkins (*C. maxima* vars.) are represented by the Yellow, Etampes, and Tours, &c.

Points About Asparagus Culture.

Our national taste in regard to vegetables seems to advance—or at least to become more critical—as time speeds on, for the choicer kinds of vegetables are in greater demand than ever, and Asparagus, which was at one time considered as a luxury for the well-to-do, is now within the reach of a large section of the community. This is to some extent due to the following of up-to-date methods of culture, which have rapidly displaced the older and more costly ones. The end of March or beginning of April are excellent times to form beds, either by sowing seeds or planting crowns. I am, therefore, tempted to advance a few remarks about Asparagus culture generally. It has been proved over and over again that splendid results may be obtained without incurring the expense of raised beds in all fairly good soils which are not stiff and wet, and last year I saw an extensive flat bed

giving fine results in a deep stiff loam, which had been well worked, but no special attention had been given to provide extra drainage. For young heads of ordinary size the soil should be deeply dug—or, better still, trenched—and liberally manured, some time before sowing or planting is attempted. The surface can then be again forked over during bright weather, which will both warm and dry the soil, as well as bring it into an ameliorated condition. Those who have good beds in bearing, and can afford to wait, should certainly sow seed in the permanent positions, while those who desire quick returns must necessarily plant two or three-year-old crowns. For private gardens I prefer to mark out the space into 3ft beds with alleys 2ft in

width between. A line should then be stretched along 9in from the edges of the bed, holes made with the dibber 3in in depth and 15in apart, and a couple of seeds dropped into each hole. When sowing is completed all that is necessary is to level the surface roughly with a rake. When the young seedlings are 6in in height carefully pull up the weaker plants, so as to leave those retained 15in apart along the rows. Weeds should, of course, be kept down throughout the summer, the hoe plied freely between the plants to encourage growth, and one dressing of sulphate of ammonia given in showery weather in June. When the tops have turned brown in the autumn cut them down, clear away weeds, and, if the soil is light, dress the beds and alleys with well-decayed manure. On heavy soils give a thin coating of rough strawy manure, this

to be removed in spring, and well-decayed manure with fine soil intermixed substituted for it. In either case the alley should shortly after be loosened with a fork to the depth of 2in or 3in. Deep digging is almost as disastrous as in the case of Raspberry plantations. With good attention, strong growths should be produced the next season, and during the third year cutting may be commenced, but ought not to be very severe till the following season. When roots are planted the beds should be marked out as usual, and lines stretched along where the rows are to be formed. The soil can then be thrown back from the outside of the lines into the alleys and from the inside into the middle of the bed, so as to form two low ridges, on which to set the plants

15in apart. The tops of these ridges must be 3in below the ground line, so that when the soil is returned the beds and alleys are about the same height, the whole being finished off neatly with a rake. In some market gardens single lines are formed 2ft or 2½ft apart, and in autumn the plough is run between to mould the soil over the roots, some of this being again drawn away in spring. In many private gardens, too, 5in or 6in of soil is piled on the beds in autumn, the greater part of which is drawn into the alley in spring. All this seems to me to be a great waste of labour, and the plan probably originated in the belief that it was necessary to afford some protection from frost; but, except in stiff wet soils, the frost never harms the roots in an established

bed, and those cultivators who do not practise moulding up or giving other protection do not find their roots suffer. Some prefer green Asparagus, others stems which are bleached almost up to the point, and when those of the latter type are needed a good depth of soil over the crowns ensures the desired results; but in that case it is better to add the soil in spring than in autumn, as when the roots are deeply buried throughout the winter their time of starting into growth in spring is delayed, and the majority of cultivators aim at getting early produce. When the heads begin to push through the soil a little nitrate of soda is of immense benefit in causing the production of fine stocks, provided the weather is fairly warm, but in cold seasons it is not wise to apply it too early, as the nitrate has a tendency to make the soil still colder. Light protecting material, such as clean, short strawy matter, or the softer parts of



Gourd Walk at Parklands, near Guildford.

bracken, if applied when frosts prevail, will prevent the early heads from being injured. When the weather becomes settled this can, of course, be removed. After cutting has ceased for the season—which it should by the end of June—strong growths should be encouraged by the aid of liquid and artificial manures, as unless strong crowns are produced it is useless to look for fine heads the following spring. Strong growths are often injured by winds in summer, and to prevent such damage the plan of driving a few stakes into the soil on either side of the bed or row, and connecting them by a line of string is well worth practising. Sometimes hosts of young plants spring up from the seed which fell from the tops the previous autumn. These ought to be

rigorously removed, or the bed will in time become one mass of small weak roots. Sutton's Perfection and Connover's Colossal are fine varieties to grow for ordinary purposes. Those who wish to grow something startling in the shape of giant sticks should try the French Giant, which, with very high feeding give wonderful results. All things considered, the Asparagus is more easily cultivated well than the majority of vegetables, and should, therefore, find a place in nearly all gardens.—H. D.

The Horticultural Hall.

On Monday last we made a special visit to the position of the site selected and commended by the Council of the Royal Horticultural Society for the proposed new exhibition hall and offices of the Society. It was announced on page 240 of the *Journal of Horticulture* last week that the chosen site is at the corner of Bell Street, Vincent Square, S.W. We found the place without the slightest difficulty, and discovered that all that had been said in favour of the site was no elaboration, and that the place is, in the highest sense, eminently satisfactory. The corner of Bell Street proposed to be rented for the hall, seems to be at present a goodly sized garden belonging to a villa standing alone. Being walled-in, the space cannot be seen from the street. It is a most convenient position, however, and is exactly at the corner where Bell Street meets Vincent Square Road at right angles. Vincent Square, by the way, is really a 10 acre green grass park or playing field, used by the boys of Westminster School. Thus, right in front, there is ample freedom and a pleasant survey. Bell Street at present is composed of low-roofed houses and tenanted by labouring people, but the whole neighbourhood is highly respectable even now, and is yearly being remodelled into one where handsome residential flats, churches, and such other buildings form the composition.

Fellows of the Society who desire to see the ground and its surroundings before voting at the meeting to-morrow, can do so by a three-minutes' walk from the present exhibition hall in Buckingham Gate. Cross into Artillery Row (which is exactly opposite Buckingham Gate) and at the bottom of the street bear round to the left behind the Army and Navy Stores, where there is a wide, open, paved space. Here take the right hand and cross into Greycoat Street, on the left, this leading into Bell Street, at the end of which the site lies. The whole distance is not more than 400 yds.

It is earnestly hoped that Fellows who support the proposed new hall movement will be forward at to-morrow's meeting in the Drill Hall at 3 o'clock, and that at last the Society will sign its intentions to take the necessary steps towards the erection of a suitable edifice for its floral exhibitions, its library, offices, lecture hall, and council chamber. £8,000 have already been promised, and at least another £8,000 can be expected by an appeal to the 5,500 Fellows, without touching the standing funds of the society at all. The expenditure of £780 a year extra on ground rent for the proposed hall is a mere bagatelle in face of the constant accession of Fellows, and also in view of the likely attractions of such a hall.

We herewith print that part of the New Hall Committee's report to the Council of the Royal Horticultural Society that was omitted in our last issue. On page 240 we referred to the site the New Hall Committee have recommended. The other sites are discussed as follows:—

"At the first meeting Baron Schröder (chairman) made a statement in regard to finance, concluding with the words: 'The financial part of the question need not cause any insuperable difficulty. It was, therefore, decided that the first matter for the Committee to engage upon should be the finding of a suitable site. Five different sites have been very carefully inspected and inquired into, with the result that four have been dismissed as unsuitable for one reason or another. Your Committee strongly advise the adoption of the fifth site (see page 240 of this journal last week), which they regard as suitable for the Society's purposes, all circumstances considered. They do not believe that any better site can be obtained which would not prove to be altogether beyond the financial resources likely to be available. The first site investigated was that known as Niagara, covering nearly an acre of land (about 40,000 square feet), and with a large circular building. The price of the freehold was fixed at a little over £100,000. Probably at least £5,000 would have been required for adapting the building for the Society's purposes, and another £5,000 or more for building suitable offices. The rates and taxes would also have been exceedingly heavy. Long and careful consideration was given to this site, but after the fullest inquiry with regard to borrowing upon the freehold and the rate of interest required, Baron Schröder announced at the fourth formal meeting of the Committee that the rate of interest required for borrowing on Niagara is so high that, considering the large initial outlay required, he had reluctantly, but decidedly,

come to the conclusion that the property was too large and too costly to be further entertained. The second site was one in the Buckingham Palace Road, containing 15,190 square feet. This site also received careful consideration, but was eventually dismissed on the ground that a rent of £700 a year, coupled with an obligation to expend at least £20,000 on buildings, was too high a price for the Society to pay for a lease of eighty years only. The third site was bounded by Vauxhall Bridge Road, Francis Street, and Carlisle Place, and included the fine building, suitable for offices, &c., known as the Old Cardinal's House. The whole site proposed contained 22,500 square feet. This property commended itself strongly to the Committee, but it had the disadvantage of belonging to three different owners, and also of involving the necessity of obtaining certain permissions from the London County Council. As soon as definite negotiations were entered into with the various owners it was apparent that an agreement as to price could not be arrived at, and this site was most regretfully dismissed. The fourth site was in Francis Street, consisting of 15,000 square feet, but the rent asked, viz., £1,400 a year for a long lease, was considered to be beyond the Society's means."

Obituary.

Mr. N. H. Pownall.

A week or two ago we wrote to Mr. N. H. Pownall, at his home in the Lenton Hall Gardens, Nottingham, asking him to join the veterans who had promised to write a short letter for the Spring Number of the *Journal*, which appeared last week. Mr. Pownall, better known to *Journal* readers as "An Old Provincial," had to excuse himself, and wrote to say: "I am passing through one of my spring bilious attacks, which is more severe than usual." And now comes to us the sad news of his decease, after a very short illness, on March 3, aged seventy years. He was buried on Thursday, March 6, and four days later his wife, aged seventy-three years, also passed away, and was interred on the 14th inst. The Vicar of Lenton, Nottingham, in a letter, says: "He was greatly respected by all who knew him, and they were Legion!"

A brief autobiography of Mr. N. H. Pownall was given in the *Journal of Horticulture* for March 9, 1899, from which we make the following extracts:—"In the late 'forties' I see myself entering the gardens of my father's employer, a large cotton manufacturer, at a place twelve miles N.E. of Manchester, and on the western slopes of the Pennine range which forms the backbone of England. Gardening was not the proposed avocation mapped out for me by my parents. My father, who was the accountant of the works, had intended training me up to his profession, so that eventually I might be able to take his place. A severe illness, caused in large measure by too close indoor confinement, induced my parents to alter their plans, and, in consultation with my master and mistress, who always took a special interest in me, brought about my admission into the gardens. I had always, from my earliest years, had a taste for gardening, from the time I grew my first pot plant—a Musk—in an old cracked teapot of my mother's, and pruned her pot Rose so effectually that, as she ruefully, but laughingly said, 'It must be well pruned, for there is only the stump left.' The gardener I was put under was one of the good old-fashioned type—a Yorkshireman, essentially a practical man. Being always a reader, and a frequenter of the booksellers' and newsagents' shops somewhere about the beginning of the 'fifties,' I made my first acquaintance with the then 'Cottage Gardener,' and from it I got visions of a larger world of gardening than up to that time I had any idea of. I read each weekly number from first page to last. I read them again and again, and the writers' personalities became clearer to me each week, so that Robert Errington, Donald Beaton, Robert Fish, Thomas Appleby, and others became my personal friends with whom I held converse week by week, and to whom I looked up with the reverential awe of a young hero-worshipper. My first communication to the 'Cottage Gardener' was somewhere about the year 1854. In 1856 I came into Nottinghamshire to be gardener to Mr. William Sanday, the great Leicester sheep and Shorthorn breeder, and my facilities for advancing in gardening were there strictly unlimited, the encouragement to go on to higher things was of the heartiest, and through all these years I occasionally dropped notes to 'our *Journal*,' generally under the pseudonym of 'Excelsior' or my own name. I have stayed in the county all through the last twenty-six years with my present employer, Mr. Frederick Wright, J.P., of Lenton Hall, Nottingham. Notts is a county, I consider, good enough for any man to live in, and its beautiful county town, or city now, is one which draws out daily more and more my admiration and love. My later writings as 'An Old Provincial' will speak for themselves."

The Editors of the *Journal* deeply regret the loss of a very old acquaintance, an able gardener, an attractive personality, an ever-welcome writer, and a God-fearing citizen. Peace and

glory to his memory: he has accomplished the work he was called upon to do, and has been borne to the sphere of rest.

Mr. William Cutbush.

At the end of last week, we regret to say, the above gentleman died at Highgate. He was seventy-seven years of age, and success had attended his efforts to a degree experienced by few.

The Late Mr. James Tegg.

The birthplace of the late Mr. James Tegg was Midgham, South Berks, but a short distance from Woking; his birthday, March 29, 1832. He seems to have entered the nursery of Mr. Henry Groom at Clapham Rise, Clapham, when quite a young

of the finest places in the county of Berks. An almost restless activity was one of Mr. Tegg's characteristics.

He took a great pride and the warmest interest in his work, ever scheming some means by which its natural beauties would be enhanced. His fruit and kitchen gardens were models of good order and effective management. The leaving of Bearwood came to him as a great trial; his name will always be associated with some of its chief improvements. One event in his career held a cherished place in his memory, he had the honour of making, at the request of Baron Hambro', the first bouquet presented to H.M. the Queen, when, as Princess Alexandra, she first reached English shores. It was presented to Her Royal Highness by the Danish Ambassador. Mr. Tegg leaves a widow and grown-up family.—R. D.

Societies.

Royal Horticultural—Scientific Committee, March 11th.

Present: A. D. Michael, Esq. (in the chair); Rev. W. Wilks, C. Hooper, J. W. Odell, E. M. Holmes, Worsley, G. S. Saunders, Drs. Müller, Rendle, Cooke, and Masters.

Slime-fungus.—Dr. Cooke reported on the leaves of an unknown plant, submitted to the last meeting. The leaves were covered superficially with pink splashes of a chalky-looking nature, upon which, here and there, were small gyrose nodules, not larger than a Rape seed, of pitch-brown colour. All this flaked off easily, and left the plant green and uninjured. The brown portion consisted of a mass of subglobose spores of a brownish-violet colour, evidently belonging to some slime-fungus or Myxogaster. Being unable to identify the species, he sent it to Mr. Geo. Massee, who has published a monograph of this group, and this is his reply: "The substance is undoubtedly the plasmodium of some Myxomycete, but what species I cannot say. It is quite superficial, and would do no harm to the plant it occurred upon."

Pæpalanthus sp.—Mr. E. M. Holmes showed a species of *Pæpalanthus*, nat. ord. Eriocaulaceæ, nearly allied to *P. elegans* and *P. niveus*, which is used in the district where it grows, on the banks of the Amazon, for decorative purposes. The white persistent dry bracts of the involucre give it the appearance of a *Helichrysum*. Its long, slender, pliable stalks render it useful for a variety of decorative purposes.

Jujube.—Mr. Holmes also exhibited specimens of a large variety of *Zizyphus jujuba* cultivated in China, and preserved as a sweetmeat. The preserved fruits are about the size of Dates, but broader and flatter, and have a striated surface. According to Sir Thos. Hanbury, from whom they are received, the Chinese call them Meih-Tsau, or honey Jujube, and prepare them by making longitudinal incisions in the fruit with a knife and then plunge the fruit into honey, subsequently drying it. It is prepared in Hungehow, the district that yields the best green Tea. The preserved fruit forms an excellent article for dessert, and it is surprising that it has not hitherto been imported for that purpose into Great Britain. Bretschneider, in the "Botanicum Sinicum," ii., p. 119, No. 278, under Ta Tsao (great Jujube), quotes the following from the Chinese writer, Kno P'o: "There is now in Ho-tung, in I-shi-hien (South-western Shensi), a kind of Tsao of the size of a hen's egg," and explains that this is probably the large Jujube now produced chiefly in Shantung, which the Chinese preserve with honey or sugar, and which is sold at Peking under the name of mi-Tsao (honey-Jujube).

Seed vessels of Arauja sericifera (Physianthus albens).—Some follicles of this plant were sent by Mr. Pentland, the Gardens, Ashwick Hall, Marshfield, Glos. The plant is an Asclepiad, figured in the *Journal of Horticulture*, February 23, 1899, p. 149. The plant from which these specimens were taken bore scores of fruits, the result of fertilisation through the medium of insects.

Hazel Buds affected with Mites.—Mr. R. W. Dean sent specimens of buds distorted in the same manner as the buds of the Black Currant. The occurrence of these buds in the Hazel and Filbert was known long before the appearance of the Currant bud-mite.

Ænantha crocata Poisonous to Cattle.—Mr. Holmes showed tubers of this plant thrown up on the sides of a ditch, where they had been eaten by cattle with fatal results, the symptoms being similar to those of poisoning by strychnine.

Seedling Ailanthus bearing Flowers.—Dr. Masters showed specimens he had received from Mr. Dinter, German S.W. Africa, which were interesting as bearing flowers whilst the cotyledons were still attached, and the whole plant was not more than 2in or 3in in height. Dr. Masters recalled a similar production of flowers on a small shoot proceeding from a sucker of the same tree, and also the formation of perfect flowers on some seedling plants of *Philadelphus* when only 2in to 3in in height.

Pinus pindica (?).—Dr. Masters showed cones, received under



The late Mr. N. H. Pownall.

man, and from there he went as foreman at a private place at Driffield, Yorkshire; and, later on, came south, and was engaged as foreman at Messrs. Maudsley and Sons at Norwood, and, leaving there, became foreman to his father, then gardener at Dover House, Roehampton, where he stayed for some time, and eventually became gardener to Baron Hambro', at Roehampton, and while here became known as a cultivator and exhibitor of fruit, exhibiting at the exhibitions of the Royal Botanic Society, the Crystal Palace, and elsewhere; here he remained for some ten and a half years, when he left to become head gardener to the late Duke of Newcastle at Clumber, about 1864-65. In 1866 he was an exhibitor at the Great International Horticultural Exhibition, held at South Kensington. Mr. Tegg remained at Clumber for the space of five years.

In July, 1870, he was appointed head gardener and forester at Bearwood, Wokingham, which had some time previously come into the possession of the late Mr. John Walter, proprietor of the "Times," and while here he carried out many improvements of a most valuable character: the Wellingtonia avenue was planted by Mr. Tegg, a new kitchen garden was made, the sunken and rock garden near the mansion was constructed; while the building of the palatial mansion gave Mr. Tegg opportunities for extending the grounds about it, which he did with admirable effect. In conjunction with the late Mr. Walter, the woods were thinned, and drives constructed, and Bearwood now ranks as one

this name from Mr. Oscar Bierbach, of the Botanic Garden, Belgrade. The tree is reported to be a native of the mountains of Thessaly. No foliage was sent, but the cones have the appearance of those of a variety of *P. Laricio*, but much more tapering in form than is usually the case in that species.

United Horticultural Benefit and Provident.

Hereunder we furnish the annual report of this most useful society, as passed at the annual general meeting held at the Caledonian Hotel, Adelphi Terrace, Strand, London, on Monday evening, March 10. On that occasion Herbert J. Cutbush was chairman, and had around him thirty members, including a number of new ones. The report is as follows:—

Report of Committee for 1901.

"In presenting its report for the year ending January 13, 1902, the committee is gratified to be able to announce that the society is in a thoroughly sound position financially. The investments have increased materially during the year, and the number of members is far larger than on any previous occasion. Early in the year the Empire was called upon to bear a great loss when Her Majesty the late Queen Victoria passed away, full of years and honour. At the meeting held in February, 1901, the committee, on behalf of the society, sent to King Edward a letter of condolence with His Majesty in the great loss he had sustained, and, at the same time, conveyed to His Majesty its expressions of loyalty. His Majesty was graciously pleased to command an acknowledgment to be made, and this the committee has had inset in the society's minute book.

"At the meeting following the annual general meeting, the committee resolved to elect a chairman and vice-chairman of committee annually, instead of voting a member to the chair at each meeting. Putting this resolution into effect, the committee unanimously elected Mr. Charles H. Curtis as its first chairman, and Mr. Thomas Winter as its first vice-chairman. As usual, twelve regular committee meetings were held during the year, and, in addition, one special and one sub-committee meeting. The attendance of the members of committee averaged nearly eleven per meeting.

"A new edition of the society's rules became necessary during the year, and has been published. It differs from the previous edition in presenting the rules as originally drawn up and registered, with all subsequent additions and alterations printed in detail at the end. Marginal references direct members to the pages containing additions and alterations, and on each of these pages there are cross references to the rule or rules affected. In publishing the new edition in this form, the committee followed the advice of the Registrar of Friendly Societies: but it suggests that when another edition becomes necessary, a special general meeting be called for the purpose of revising the original rules, embodying the alterations and additions that have already been made, and having the whole re-registered.

"For the fourth successive year eighty-three new members have been admitted to the society, a number that has not hitherto been exceeded. The committee hopes, however, that during the ensuing year, members will do their utmost to place before the young gardeners of Great Britain and Ireland the many advantages and benefits of the society, and thereby secure a still larger increase of membership. It was the painful duty of the committee to refuse admission to two candidates at its last meeting of the year, as both were a few days over the age limit. During the year twenty-four members have lapsed, and two have died, so that now the number of subscribing members is 904, an advance of fifty-three for the year.

"Subscriptions and arrears to Benefit Fund amounted to £1,440 12s. 10d., and the total disbursed as sick pay was £307 16s., a slight advance on the amount paid out in 1900, but met by a deduction of 8s. 4d. and 5s. 6d. respectively on the two scales. Only seventy-seven members received sick pay; but the average duration of illness was greater than in the previous year. The total balance standing to the account of the Benefit Fund is now £14,764 0s. 1d.

"The Benevolent Fund has afforded assistance to eight members, the total amount paid out being £107 7s., an increase of £25 7s. on the sum paid in 1900, but not nearly so large an increase as was the amount paid out in 1900 (£82) upon the sum disbursed in 1899 (£35 5s. 6d.). The committee has had the whole subject of the Benevolent Fund under consideration, but at present it has no proposition to make to the members regarding it. From the Convalescent Fund the sum of £6 10s. has been paid, divided among five members. For donations to this fund the committee desires to thank both honorary and benefit members.

"On October 9 the society held its annual dinner at the Holborn Restaurant, when 105 members and friends attended. The chairman on this occasion was Peter Kay, Esq., V.M.H., who not only made an able president, but also liberally assisted the committee in carrying out the arrangements for this function. To Messrs. W. Cutbush and Son, J. Laing and Sons, H. Cannell and Sons, Wm. Thomson and Son, P. Kay, Riley Scott, Robinson, and others, the thanks of the committee are due, and hereby

tendered for their gifts of flowers and fruits. The committee has much pleasure in stating that Arthur W. Sutton, Esq., V.M.H., has kindly promised to preside at the annual dinner of 1902.

"In conclusion, the committee would urge each member to take a deeper active interest in the advancement of the society, and by the exertion of personal influence to secure new members, so that the record of the Coronation year may surpass that of all previous years, and the membership of the society be raised to at least one thousand."

Statement of Liabilities and Assets.

LIABILITIES.			ASSETS.		
1902. January 13th.	£	s. d.	1902. January 13th.	£	s. d.
To Benevolent Fund ..	3,596	18 2	By Invests. as per 1900 ac.	17,400	0 0
„ Convalescent Fund ..	458	17 6	„ 1900-1 Cardiff Corporation Stock	500	0 0
„ Management Fund ..	67	12 1	„ London County Stock	400	0 0
„ Benefit Fund ..	14,740	0 1	„ Croydon Corporation Stock	700	0 0
	18,887	7 10		19,000	0 0
Balance.. ..	199	6 3	Cash in hand of Treasurer	86	14 1
	£19,086	14 1		£19,086	14 1

Total Invested Money £19,000

March 5th, 1902. Audited and found correct. W. GUNNER } Auditors.
T. H. PUZEY }

Votes of thanks were passed to the officers who had served throughout the year. The committee and Mr. Hudson (treasurer for twenty-one years) deserve the sincerest thanks of those whose interests they so ably manage. Mr. Charles H. Curtis, the enthusiastic and willing chairman of committee, was re-elected to the post, and Mr. Winter to that of the vice-chair, all the other officers being re-elected. In his speech following the report, Mr. Cutbush reviewed the aims and benefits of the society, than which, as he stated, there is no better in the country. We heartily commend those gardeners who are desirous to be provident, and who wish to ensure themselves against monetary embarrassment during illness, to obtain a copy of the rules from Mr. Wm. Collins, the secretary. His address is 9, Martindale Road, Balham, S.W. We trust to bring forward the claims of the "United" from time to time during the year.

Gardeners' Royal Benevolent Institution.

The City Hall, Eberle Street, Liverpool, was never used for a greater purpose than that of the Gardeners' Royal Benevolent social evening, when every portion of the vast hall was fully occupied by a numerous attendance, representing all the leading tradesmen and gardeners in the neighbourhood. Professor R. J. Harvey Gibson, F.L.S., University College, Liverpool, occupied the chair, and he was supported by H. J. Veitch, Esq., and Geo. J. Ingram, Esq., who had kindly come down from London to address the meeting. The chairman gave all a hearty welcome, and he was followed by Mr. Veitch, who sketched the history of the association from its inception, the frequent applause denoting the thorough hold he had on the audience, who had many knotty points solved to their satisfaction. Mr. Ingram also made many friends by his kindly and sympathetic speech, whilst Mr. Ker, Mr. Guttridge (of the Botanical Gardens, Waver-tree) supported in no mean manner. Mr. C. A. Young, chairman of the local committee, made a most effective speech, and Mr. Waterman, secretary, eulogised the proceedings. Many subscriptions and donations were promised, and it was a most gratifying event when Mr. Veitch announced the fact that the meeting was the finest preliminary that he had ever attended, and that the musical programme was a long way ahead of anything they could get in London. The proceeds and other matters I shall leave for a later notice.—R. P. R.

Bristol Gardeners' Association.

This association held its meeting at St. John's Rooms on Thursday evening last, when Mr. Daniels, of the Newport Gardeners' Association, gave a paper on "The Cultivation of the Cineraria." Judging from the discussion which followed Mr. Daniels' address, it was obvious that the Cineraria is very much in favour with the gardening fraternity of the district. *Cineraria stellata* is extremely floriferous, and most useful for cutting. Since 1777 the Cineraria has undergone many improvements, which have now reached perfection, and no greenhouse is complete without a few plants. The best composts, feeding, and general treatment were described in a practical way. His paper was a worthy one, his audience appreciative, and the Newport Association are to be congratulated in having such a member as Mr. Daniels. He was accorded the best thanks of the meeting for his paper. Prizes for two Cinerarias were awarded as follows: Alderman W. Howell Davis (gardener, Mr. Curtis) taking first honours, while Mr. A. Cole (gardener, Mr. Bird) ran very close with second: Certificates of Merit were given to Dr. Heale for *Calla Elliotiana* and *Dendrobium atro-violaceum* and to Mr. Gilbert Howes (gardener, Mr. White) for *Phaius grandiflorus*. Dr. Heale and Mr. Geo. Brook also exhibited *Suramatum guttatum* (?) a curious plant which grows without the aid of soil or water.—H. K.

Beckenham Horticultural.

On Friday last a lecture was given by Professor J. Percival, M.A., F.L.S., on "The Improvement of Plants by Selection and Hybridisation." The attendance was not all that could be desired, owing, no doubt, to the miserably wet night; but those that were present could not fail to benefit considerably by the vast amount of knowledge imparted by the lecturer, and this in such a pleasing and instructive manner that even the youngest listener could not well fail to follow. At the close some few questions were asked, and some apparently crooked things were made straight by the lecturer, who received a very hearty vote of thanks for his intensely interesting "little talk," as he pleased to call it. Some remarkable examples of forced Rhubarb (the Sutton) were placed on the table by Mr. Webster, Kelsey Park.—T. C.

Royal Horticultural of Southampton.

The balance-sheet for the year 1901, as proved for the above society (whose annual report we printed in our issue for February 20), was made up as follows:

RECEIPTS.			EXPENSES.		
	£	s. d.		£	s. d.
Brought forward from 1900	38	16 6	Summer Show	205	18 8
Summer Show	144	7 7	Autumn Show	176	9 10
Autumn Show	92	16 9	Management		
Management Items ..	21	16 11	New Material	97	15 6
Profit on Garden Party ..	25	10 8	Certificates, &c. ..		
Subscriptions (annual) ..	212	4 0	Cost of Trophy	40	0 0
" " for Trophy	40	0 0	Bonds Redeemed	25	0 0
				£545	4 0
			Cr. Balance	30	8 5
	£575	12 5		£575	12 5
BALANCE ACCOUNT.			LIABILITIES.		
ASSETS.	£	s. d.		£	s. d.
Cash on deposit and in hand	80	8 5	Due to Bond-holders ..	25	0 0
Subscriptions not paid ..	1	16 0	Cr. Balance	81	4 5
Value of Stoves	24	0 0			
	£106	4 6		£106	4 5

Liverpool Amateur Gardeners.

The first meeting of the session was held in the Common Hall, Hackins Hey, on March 6, when the newly-appointed president, Mr. W. A. Jones, presided over a capital attendance of members. The president gave all present the impression that he is a worker, and one able to grasp to the fullest the delight afforded by a garden. His address was far above the average. The garden, he said, gave real rest, and was a change of occupation which, after business hours, could not be more pleasant. To be successful the mind should be concentrated upon the work. Patience and perseverance were essential, the pleasure of anticipation being great. Gardening should cause friendly emulation. From the highest to the lowest the love of flowers is universally prevalent, for there is in them the emblems of human life, their beauty and fragrance appealing to all. To the Persians their gardens were their Paradises, and from Persia we have derived much of the wealth of spring flowers.

A book of verses underneath the bough;
A jug of wine, a loaf of bread, and thou,
Beside me singing in the wilderness—
Oh! Wilderness were Paradise enow.

Such were a few of the thoughts set forth by Mr. Jones in his lucid address. Messrs. Robins and Hancock were elected joint hon. secretaries pro tem., and several new members were proposed. The principal prizewinners were Mrs. Stevenson and Mr. Ellison, for spring flowering bulbs excellent in quality; whilst Mr. Dodds' Dendrobiums were capitally grown. Votes of thanks closed the meeting.—R. P. R.

Chester Paxton.

The schedule of prizes for the annual exhibition of fruits and Chrysanthemums has been issued, and we are pleased to note that this is a decided advance upon any of the society's previous lists. In the fruit department a new section has been added for cottagers whose rental does not exceed £10 per annum. Prizes for bottled fruits, and also for Grapes, are, as usual, special features. New classes have also been added to the Chrysanthemum sections, and the valuable prizes offered by Captain MacGillycuddy and Mr. T. Gibbons Frost should go a long way to encourage the extended culture of the queen of winter flowers.

In the Lecture Theatre of the Grosvenor Museum, on Saturday, Mr. A. E. Goodman delivered the closing lecture for the winter session, taking as his subject "Plants and their Relation to their Food Supply." Mr. John Weaver, president of the Society, presided, and briefly introduced the lecturer. Although the subject was somewhat of a technical nature, the lecturer, with the aid of a set of beautifully prepared slides, and also

experiments and diagrams, was able to explain matters in a clear and lucid manner, and such as could easily be understood by all who were present. In addition to describing the various sources of food supply, he showed how essential plant life is to human and animal life, and concluded by showing a series of photographic slides illustrating the methods of insectivorous plants. On the initiative of Mr. G. P. Miln Mr. Goodman was accorded a hearty vote of thanks for what proved to be one of the most interesting lectures of the session.

Birmingham Gardeners': Birds

The usual fortnightly meeting, held on the 8th inst., was signalled by one of the most interesting and edifying subjects yet presented before the members of this numerically increasing society, when Mr. Robert W. Chase, of Edgbaston, a well-known naturalist, and for several years formerly president of the Birmingham Natural History and Microscopical Society, was responsible for a verbal dissertation on British birds. This was illustrated with lantern-slide pictures, chiefly of the birds of prey and sea-birds, mostly photographed by himself in their native haunts when on his numerous ornithological expeditions. Mr. Chase had visited the Lundy Island, the Faroe Islands, and other notable habitats of sea and inland birds. In introducing Mr. Chase to the meeting, the president (Professor Wm. Hillhouse) remarked upon the exceptionally fine ornithological collection, and comprising, in sequence, the eggs, and the birds in various stages of growth towards maturity, whilst the specimens are mounted as to show instructively the surroundings of the various birds as seen in their natural habitats. Of nests of the different birds containing cuckoo's eggs the collection comprises upwards of 100 specimens. The lecturer, in his preliminary remarks, exhibited a tabulated list of the genera and verified species of British birds, amounting to at least 370 species, with a few additional not exactly determined ones. The excellent photographic pictures, especially of the breeding haunts of the seafowl, with their eggs and progeny in situ among the precipitous and inaccessible rocky heights, were duly appreciated by the audience. They also served as evidence of the lecturer's indomitable perseverance and skill in the pursuit of his charming hobby. Here, also, it may be remarked that horticulture claims Mr. Chase as a devotee, as well as ornithology and taxidermy. The zoological collection in Regent's Park, London, and the British Museum have also been enriched by rare specimens of British birds contributed by Mr. Chase. In response to the hearty vote of thanks accorded by the meeting, the lecturer expressed his gratification in having addressed such an appreciative audience, and was particularly impressed by the observant remarks and questions of more than one of his hearers.—W. G.

Trade Notes.

The Wordsley firm, hitherto consisting of Colonel W. G. Webb, M.P., and Mr. Edward Webb, has been extended by the taking into partnership of Mr. W. Harcourt Webb and Mr. E. Stanley Webb, the eldest sons respectively of the two senior partners, and both well known in the showyards.

Nonex.

This name has been adopted by a firm of manufacturers (Messrs. G. and T. Earle, Limited, Hull, England) for a cement offered by them, and intended for repairs to brick and stonework. We have received a large sample tin of "Nonex," and this will be found a most useful repairing material for a very great variety of purposes. For a range or copper, for doorsteps, window-sills, hearths, tessellated pavements or tiling, for drains, mouse and rat holes, mantelpieces, tombstones, ornamental castings, &c., the cement will prove effective when properly applied, and its being so portable and easy to prepare should ensure a ready demand for so useful an article. "Nonex" can be purchased also for use as a paint for walls in the following colours: Dark slate, slate blue, light marone, cold grey slate, cement, dark terra cotta, light brick-red, and stone. As directions for using the cement are provided with each consignment there need be no difficulty experienced. For further particulars see our advertisement columns.

Barr's Plant Catalogue.

The newly-issued catalogue of hardy perennials, alpinas, and aquatic plants for 1902 comes to us from Messrs. Barr and Sons, King Street, Covent Garden, W.C., and is as splendidly got up as hitherto. On pages 1 to 4 we find a selection of really good novelties and rarities. The lists of Lenten Roses, Irises, Pæonies, Phloxes, and new coloured hybrid Water Lilies (the culture of these being a speciality with the firm) are comprehensive and good. We commend the catalogue to lovers of the outdoor garden everywhere.



Hardy Fruit Garden.

PLANTING FRUIT TREES.—If it is imperative to plant in spring trees ought at once to be planted. It is assumed that the ground has been in readiness some time, and has become consolidated. Having now dried sufficiently on the surface, and the top few inches being in an ameliorated condition, it will work easily, rendering the operation of planting quite pleasant, providing the weather is also dry. If not, rather than plant under wet conditions wait until the soil is again suitable. Except in very wet and adhesive soils this will not take long at the present season, for the cold drying winds and frequently hot sunshine quickly render the soil dry. In damp, ill-drained positions the method of planting may be somewhat different, and it is desirable to keep the roots away from the ill-effects which damp soil will produce when it is constantly in this state. Therefore, it is advisable to plant the trees higher than ordinarily, in fact place them on mounds formed of good soil. Wherever spring planting is carried out the soil must be well prepared in regard to breaking up and pulverising. Expend some care in the planting, and see that all the roots possessed by the trees are properly pruned—that is, no wounded or broken parts left. Retain as many fibres as possible, and spread all out to their full length in several distinct layers, covering each layer with good fine soil, spread over them from the stem outwards. Place the trees about the same depth as previously, and do not bury the top layers more than 3in deep. Tall standard trees must be staked at once, wrapping round the trees straw or hay bands to prevent the ligatures used, whether copper-wire or cord, from injuring the stems. The best way to fix a stake firmly to the trees is first to make a good deep hole with a pitcher, and then drop or work in the stake. Short or bushy specimens will not need stakes, but should be firmly planted.

PROTECTING PEACH AND NECTARINE TREES.—Fixed protection for trees on walls is best given by hanging in front of them fish netting three or four times doubled. Its removal is not necessary until that is done finally, and it has the great advantage of freely admitting light and air. It is quite possible to protect trees too much. They really only require covering when the flowers are open and the weather is wet or frosty. Cold and dry weather will not hurt them, but is more beneficial than otherwise. Some fruit walls have a fixed or moveable glass coping attached. From these may be depended lengths of canvas or frigi domo, or similar material. Secure them at the bottom to posts fixed a foot or so from the ground. When not in use draw them up under the coping, but they may be fixed for pulling on one side. The best method may be decided upon when arranging them in position for use. Retain the protection in position until the fruit has well set, as when in a young state a little protection will be of great use.

STRAWBERRY BEDS.—Old beds that need assistance, and will pay for it, should now have a good dressing of soot sprinkled round them, or a light application of nitrate of soda will be found beneficial. In a short time, too, a good dressing of rich manure will prove of great use in improving the quality and quantity of the crop. The manure may be a mixture of long and short material combined, the latter affording nutriment suitable for absorption by the soil from which the roots can readily find that which they need. The long material having become well washed by the rain before the flowering period arrives, will prove a suitable bed for the fruit to rest upon and maintain it clean. Beds containing young plants need little or no assistance at present with mulching, but the soil between the rows may be frequently hoed, not disturbing the soil round the plants too much, the aim being to destroy weeds.

THE GOOSEBERRY CATERPILLAR.—Gooseberry trees now pushing into growth are in some cases liable to early attacks from caterpillars. They are probably hibernating in the soil beneath the bushes, and only need warm weather to become active. It is a good plan, therefore, before they do so to remove the soil from beneath the trees 2in deep, and bury it in a trench a foot deep. Over the space cleared sprinkle some soot and wood ashes, and cover with fresh soil. That taken out from the trench where the old soil is buried will do admirably. Also dust the old stems and parts of branches with soot or lime. This may be unnecessary, but it will at least serve to sweeten and cleanse the stems.

AUTUMN-PLANTED WALL TREES.—Trees planted in autumn, and only lightly or loosely fastened up until the soil has settled, and the trees with it, may now be secured in posi-

tion, training the growths regularly, and pruning them back to half or one-third their distance. Cordon trees will also need training in the proper direction; but, in their case, if good and healthy growth has been made, no shortening of the leading growths is necessary. Side growths may, if this has not already been done, be pruned to one or two buds.—EAST KENT.

Fruit Forcing.

VINES: EARLIEST HOUSES.—Colouring will shortly be proceeding in the very early-started houses. To insure well-developed berries afford a thorough supply of tepid liquid manure, and mulch the border at once with an inch or two thickness (not more) of partially decayed manure, preferably rather lumpy. Stable litter, having the strawy portions shaken out, thrown into a heap, and, when commencing to heat, turned over twice, forms excellent mulching material. This will give a stimulus to the roots and secure healthy foliage, while the moisture will be sufficient for the Vines until the Grapes are cut; but they must not suffer for lack of water, or this will cause the premature ripening of the wood and loss of the principal leaves, which may induce fresh growth when the Vines should be going to rest. Damping must be continued until the Grapes are well advanced in colouring, after which reduce the moisture gradually, and insure a circulation of warm air day and night by regulating the ventilation judiciously. The temperature should be maintained at 70deg to 75deg in the daytime, with a rise of 10deg to 15deg from sun heat, allowing the temperature to fall during the night to 65deg, or even 60deg.

VINES IN FLOWER.—Afford a circulation of warm, rather dry air, and a temperature of 65deg to 70deg at night for Black Hamburgs and similar varieties, and 70deg to 75deg for Muscats. The latter and other shy-setting varieties should be brushed over with a camel's-hair brush about the time the blossom is fully expanded, so as to aid the stigmas of the caps and the glutinous substance, choosing a warm part of the day after the house has been rather freely ventilated. This will render them fitted for fertilisation, which should be effected by brushing them over with a brush surcharged with pollen taken from free-setting sorts such as Black Hamburgs and Alicante.

SUCCESSION HOUSES—DISBUDDING.—It is not good practice to attempt this until the bunches appear in the points of the shoots, and then it ought not to be done in a hurry, nor a large reduction made at one time. Proceed gradually and with discrimination, so as to give as little check to the Vines as possible. Retain no more shoots than can have the full benefit of the light, as crowding is one of the greatest evils in Vine culture. Allow for the due extension of the laterals, for on this depends root activity until the crop is perfected.

STOPPING THE GROWTHS.—The bearing shoots should be allowed to extend in accordance to the space. If this is limited, the Vines being close, the shoot may be pinched at the first joint beyond the bunch, and this should be done when the shoot at the joint is the size of a halfpenny. If there is a moderate space between the rods, allow two joints beyond the show of fruit. Where there is abundance of room allow the shoots with fruit to extend three or four leaves beyond the bunches before taking off their points. Laterals will push from the joints both above and below the bunches. Those below may be rubbed off, except from the two lowest leaves, which should be pinched at the first joint, or, if there is a good space between the spurs on the rods, all the laterals on the shoots below the bunch may remain, pinching to one leaf. But laterals above the bunch may either be pinched to one joint, or allowed to extend until the space is fairly furnished; then pinch and keep them within bounds afterwards by stopping to each joint of growth as made.

THINNING.—This is a very important operation, both as regards the bunches and berries. Remove all duplicate and superfluous bunches before they flower. Setting depends on the good form of the bunch, and on its receiving the essentials of fertilisation. Free-setting varieties may have the berries thinned as soon as they are out of flower; but Muscats and other shy setters should not be thinned until it is seen which berries have been properly fertilised by their taking the lead in swelling. Every berry should have room to swell without becoming wedged, and yet have enough berries to insure the bunch retaining its form when cut.

WATERING—FEEDING AND MULCHING.—Until the Vines are in leaf they require very moderate supplies of water, sufficient only to keep the soil moist; but when the leaves are in full evaporation, being full-sized, this is considerable, and from that time until the fruit ripens they must not lack water at the roots. It is difficult to state how often the borders will need watering through their being so variable in dimension and formation. A narrow border will require watering twice as often as one double the width, assuming the Vines to be equally extended and cropped, while a border of loose material will need water much more frequently than one formed of firm

retentive loam. Consequently, the grower must be guided by the state of the Vines in relation to the rooting area, and have due regard to the weather, as water will be required much oftener in hot, dry weather than when cold and dull. The proper procedure is to examine the border, and when water is necessary give it abundantly. Surface dressings of artificial manures are of much benefit for the health of the Vines and the swelling and perfecting of their crops. A dressing should be given when the Vines start into growth, a second when they are going out of blossom, another after the Grapes have been thinned, a fourth during stoning, and a final one when the Grapes commence the last swelling, or just before or when beginning to colour. Liquid manure is more prompt in action than a top-dressing, and may be supplied whenever watering is required, taking care that it is not too strong, and is warmed to the mean temperature of the house. Vines restricted to narrow borders will need higher feeding than those with large rooting areas, affording liquid manure whenever watering is requisite; but it is well to change the food occasionally. A mulching of short, sweet, lumpy manure, as stable litter freed of straw and sweetened, about an inch thick, and added to from time to time so as to maintain that thickness, is excellent for ordinary borders, but those composed of light porous materials should have a mulching of well decayed manure, as it lies closer, and the roots of the Vines are attracted to it through its retaining moisture better and longer.

LATE VINES.—If started in February, they will be swelling their buds and have the whole season before them. Use the syringe twice a day, seeking to insure a good start by closing the house with a genial humid but not saturated atmosphere at a temperature of 75deg. The canes of young Vines having been fixed in a horizontal position, the buds will break evenly, if not depress their points still more. Let the inside border be brought into a moist but not saturated condition. The outside border will be sufficiently protected by a fine tilth of soil, or, if very firm and close at the surface, a light mulching of lumpy partially decayed material will protect the young fibres from chill and accelerate surface rooting while feeding the Vines. When lumpy, and not more than a couple of inches thick, it is of great benefit in preserving uniform moisture, while admitting of the free access of air, rain, and the sun's warmth.

LATE VARIETIES OF GRAPES.—Start any houses of these without delay, especially of the thick-skinned varieties, as a long period of growth is required to produce highly finished fruit with good keeping qualities. Syringe the rods twice a day, or maintain a genial condition of the atmosphere by damping the floors in dull weather, as it is not advisable to keep the Vines constantly wet. It is decidedly advantageous to cover the inside borders with a little stable litter freed from straw, and add to it from time to time so as to secure an atmosphere charged perceptibly with ammonia. Night temperature, 50deg to 55deg, 55deg by day artificially, and 65deg from sun heat.

LATE HAMBURGH HOUSES.—For affording the latest supply of these and other thin-skinned Grapes, allow the Vines to break naturally. If the Grapes are thinned by early June, and the fruit ripened by the end of September, it will suffice. Ripened earlier, they are liable to lose colour and quality by hanging, which is not peculiar to Black Hamburgs but to all Grapes with thin skins, though black Grapes lose colour more decisively than the so-called white varieties.—**ST. ALBANS.**

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1902. March.										
Sunday ... 9	N.W.	deg. 56.9	deg. 44.9	deg. 56.1	deg. 44.8	Ins. 0.07	deg. 43.2	deg. 42.3	deg. 43.1	deg. 42.0
Monday ...10	E.N.E.	44.9	44.2	49.3	44.7	—	45.0	43.2	43.3	41.5
Tuesday ...11	S.S.E.	44.4	43.4	49.3	38.5	—	44.2	43.8	43.4	31.6
Wed'sday 12	S.S.E.	44.9	43.6	53.5	42.0	—	44.4	43.9	43.7	35.8
Thursday 13	S.S.E.	46.2	39.7	56.8	32.3	—	44.1	44.2	43.9	25.1
Friday ...14	S.S.W.	49.3	45.9	54.6	35.8	0.51	44.1	44.3	44.2	27.6
Saturday 15	W.N.W.	47.4	42.5	52.8	42.1	—	45.2	44.5	44.2	39.5
MEANS ...		46.9	43.5	53.2	40.0	Total. 0.58	44.3	43.7	43.7	34.7

The first part of the week was remarkable for dense black fog; the latter part has been bright with the wind strong. A considerable quantity of rain fell on the 14th.



TO CORRESPONDENTS

* * * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

GAZANIA SPLENDENS (D. W.).—The plants will not be so successful from seeds sown now as they would have been from cuttings taken last August. However, you can sow at once in pans, using a sandy soil; and place the pans in a temperature of from 60deg to 68deg. When ready to prick out, place them in boxes, and out of doors, in May.

SITUATION IN PUBLIC PARKS (G. H.).—The situation as a working gardener in any of the public parks can only be obtained by making an application to the respective superintendents. The chief qualifications are that the assistant be active, willing, and obedient. The qualities necessary for a superintendent are, of course, varied, responsible, and numerous. Secure the "Horticultural Directory," price 1s. 3d. post free, from this office, which will give you the names and addresses of a large number of park superintendents throughout the country.

PASTURE (D. I. S.).—The soil of this, you say, is a stiff clay, shallow, and lying on a retentive brash, becoming as hard as possible when dried by either wind or sun. We fear that you will reap no good from this until it is drained thoroughly. After that, put upon it as much of road-scrappings, coal ashes, gypsum, bone dust, salt, and dung, annually, as you can spare. Put some of the mixture on now, and then sow on every acre 2lb Red Clover, 3lb White Clover, 2lb Perennial Rye Grass, 2lb Italian Rye Grass, 1lb Meadow Foxtail, 3lb Cock's-foot, 2lb Meadow Fescue, 1lb Hard Fescue, 1lb rough-stalked Meadow Grass, 1lb smooth-stalked ditto, 1lb sweet-scented Vernal Grass, and 2lb Timothy Grass. After sowing, bush-harrow it.

PRUNING CLIMBING ROSES (Hortus).—Newly-planted climbing Roses are best left full length until the middle or latter part of April, when they should be cut hard back to two or three buds, which will induce strong, vigorous shoots to push, one or two only being retained to each branch, the weaker growths being rubbed off. By leaving the current growths a time longer growths pushing from the upper buds will favour root action, and this will favour a vigorous growth when the conditions are favourable. Brooms that have become leggy may be cut down to about a foot or 18in from the ground, and they, if not very old, will push young growths from the joints. It is well to leave a few of the smaller twigs where it can be done, and the branches where they fork from the main stem, about 6in in length. Old stumps, however, do not break well.

TOPPING-UP ASPARAGUS BEDS (G. F. O. B.).—The 6in or 8in of soil over the crowns of the plants or stools is quite sufficient, even for blanched heads, that is cutting them with a length of about 6in of underground, hence white or whitish portion and 3in of green or purplish top or head. There should be no difficulty in cutting the heads, an Asparagus knife being employed, this being an implement with a long handle and saw-like blade or cutter, and is easily thrust into the soil by each head, and this cut without damage to the other heads. It is not a good plan to expose the roots in the alleys, they being liable to suffer from frost, dryness, and general exposure to the atmosphere, from which they cannot derive the essential nutrients, and must be more or less prejudiced. They should be covered over at least an inch with some light material, such as that of spent Mushroom beds, of which we believe you usually have a good supply. The Asparagus knife can be had from nurserymen, the cost being from 2s. to 2s. 6d. each.

SEEDLING TUBEROUS BEGONIAS NOT THRIVING (J. L.).—We can only surmise that the seedlings have received a severe check, either from atmospheric changes or from some unfavourable conditions of soil, probably an excess of watering. Sometimes, however, the seedlings are infected by the rust mite, *Tarsonymus Begoni*, which gives the leaves a rusted appearance, and completely cripples the growth; indeed, prevents further development. In this case the plants should be lightly sprinkled with tobacco water at intervals of about four days, which is very destructive and repressive of the pest, also acting as preventive of attack. The tobacco juice sold by nurserymen is suitable, diluting with about twelve parts rain-water, or place 1oz of strongest shag tobacco in a jar and pour on it a quart of boiling water, and cover up closely, letting remain until cool. Then strain, and use the tobacco water for sprinkling on the plants.

taking care not to use it so excessively as to make the soil sodden and sour. Under this treatment we have known the plants to recover and grow on freely.

FLOWERS FOR DESIGN (Union Jack).—As a red we only know of *Alternanthera paronychioides magnifica* that is likely to accord with blue and white *Lobelia*, not any flowering plant being dwarf enough for association with them, or, if dwarf enough, not certain for continuity of bloom. Of plants raised from seed the dwarf *Chrysanthemum Aster*, in fiery scarlet, dark blue, and pure white, are the most likely to meet your requirements, being very free-flowering, of stiff habit, growing 9 in to 12 in in height, and bearing from fifteen to twenty flowers on each plant.

VINE SHOWING FRUIT IRREGULARLY (J. H. L.).—As many of the spurs are not showing any signs of fruit, while others are showing bunches on three and, in some cases, four shoots, you may allow two bearing shoots to each spur, still retaining a shoot to each of the other spurs, stopping these at the sixth joint, and pinching the laterals to a joint or two as made so as not to crowd the space with more foliage than can have due exposure to light and air. If the spurs are a good distance apart you may allow two shoots to each spur not showing fruit, otherwise it is not advisable, as stout well-developed wood and buds is all-important for fruitfulness. Two bunches on two shoots will give you the equivalent of one to each spur, there being as many spurs not bearing as fruiting, and this will not prejudice the Vine, as the sap will be transferred to more or less extent. It is not advisable, however, to overcrop the Vine, not allowing more than a pound weight of Grapes per foot seen of rod, calculating so as to under rather than over-cropped.

GARDENERS' EDUCATION (Apprentice).—We have a lengthy communication in hand on the subject about which you inquire for information, and, when it shortly appears, we trust you will enjoy reading it. First, then, you can improve your handwriting, which, for an apprentice, is shaky and irregular, but legible. Practice short notes for the "Domain," and carefully compare the printed articles with your original composition. If you have had a good grounding in at least the rudiments of English grammar, you will soon improve in the style of your composition. Regarding arithmetic, you would find Longman's "School Arithmetic," very helpful. Along with these (though we do not commend you to undertake all the subjects at the same time) try to go through Edmond's "Elementary Botany" (Macmillan, 1s. or 2s.), Aikman's "Food of Crops" (Vinton and Co., Limited, 2s.), and Ormerod's "Methods of Insect-life" (Simpkin, Marshall and Co., 2s.). These will give you an insight to, and training in, the theoretical part of a gardener's education. And it is of primary importance to have a standard work bearing on the practice of horticulture. Sutton's "Culture of Vegetables and Flowers from Seeds and Roots," price 5s., will greatly assist you. John Wright's "Primer of Horticulture," 1s., though small, contains much that is very necessary to know, and you should get this book. "Fruit Culture for Amateurs," 3s. 9d. (L. Upcott Gill), may also be noted. Beyond these, of course, there are some larger but expensive works, which you may inquire about. These are Nicholson's "Dictionary of Gardening," Thompson's "Gardener's Assistant" (new edition), and Weathers' "Guide to Hardy Garden Plants, Fruit, and Vegetables." If you desire further information, write. The names of the above publishers are all well known.

PARADISE AND DOUCIN STOCKS (A. P. W.).—There are two forms under the term of Paradise stock: (1) The French or *Pomme de Paradis* is a somewhat weak grower, and not of a hardy constitution, hence is used chiefly in France, being generally unsuitable in England, for dwarf bushes, being remarkable for its tendency to emit numerous fibrous roots near the surface, and for contracting the growth of the graft, causing it to become fruitful at a very early stage. (2) The Doucin, sometimes called English Paradise stock, but, according to Mr. Thomas Rivers, regarded as identical with the Dutch Paradise mentioned by Miller in 1759, puts forth abundance of fibrous roots near the surface of the soil, and is not inclined to root deeply into it like the so-called Crab or free stock—that raised from pips or seeds of cider Apples. Apples grafted on the Doucin stock are more vigorous than when grafted on the French Paradise stock, and less so than those on the free stock. It is, therefore, well adapted for garden trees, for they are easily lifted, their roots thus kept to the surface, and the trees consequently kept healthy and fruitful. Some, however, regard the Doucin used as a stock in English nurseries as different from the Doucins employed on the Continent, being hardier and of the same surface-rooting nature. There are other stocks under the name of Paradise, notably Mr. Rivers' Broad-leaved Paradise, with very broad leaves and a most healthy and vigorous habit, and his Nonesuch Paradise, with downy leaves and a knotted stem, is equally vigorous in habit, but with a great tendency to form fruit spurs, hence remarkable for inducing dwarf growth and fruitful trees. For general purposes we recommend the English Paradise, which is much like the Broad-leaved Paradise, and is equally good, it being invidious to recommend one before the other.

BOOKS ON FRUIT CULTURE (Edward Adams, U.S.A.).—The standard work on fruit culture in this country may be accepted as Wright's "Fruit Growers' Guide," published at about 3 guineas, we believe, by Virtue and Co., London. All styles of training trees receive attention.

INSECTS ON VINES (A. B.).—The insect is a thrips (*T. adonidum* syn. *Heliothrips hæmorrhides*), one of the worst pests that can gain a footing on Vines. We should maintain a moist atmosphere, even having recourse to syringing the Vines until the first flowers expand, then discontinuing it until the berries are set. To effect a good set resource should be had to artificial fertilisation.

EARLY AND LATE VINES (G. W.).—We presume the two houses require the same number of Vines each—namely, eight. For the early house to give a supply up to the end of November; Black Hamburg, Mill Hill Hamburg, Buckland Sweetwater, Foster's Seedling, Duke of Buccleuch, Madresfield Court, Appley Towers, and Gros Maroc. For late houses to give a supply up to March, or even June: Alicante, Gros Colman, Gros Guillaume, Mrs. Pince, Alnwick Seedling, West's St. Peter's, Lady Downe's Seedling, Muscat of Alexandria, and Canon Hall. You say you do not intend to plant Muscat of Alexandria or its near relative, Canon Hall, the very cream of Grapes, therefore you may have Golden Queen and Mrs. Pearson, or have two each of Gros Colman and Lady Downe's. The latter we have had very good on June 7 from bottles in a fruit-room.

NAMES OF FRUIT.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (A. N.).—Apple, Beauty of Kent; 2, Brownlee's Russet; 3, Chelmsford Wonder.

NAMES OF PLANTS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (Constant Reader).—*Veltheimia viridifolia*, a plant of the N. O. Liliaceæ of the tribe Scilleæ. (J. W.).—1. *Lycaste flava*; 2. *Euonymus europæus*; 3. *Allamanda neriifolia*; 4. *Scilla bifolia*; 5. *Scilla bifolia alba*. (J. F.).—1. *Dendrobium Cassiope*; 2. *D. Pierardi*; 3. *Lycaste Skinneri alba*; 4. *Davallia tenuifolia*. (No Name).—1. *Asplenium cicutarium*; 2. *Acacia acinacea*; 3. *Acacia linearifolia*; 4. *Scilla amona*. (A. B. F.).—1. *Cœlogyne cristata Limoniana*; 2. *Oncidium Kramerii*; 3. *Dendrobium luteolum*.

EDITORIAL NOTICE.—Our readers can greatly assist in adding interest to the pages of "The Journal" by their kindly contribution of timely notes and notices, and at the present period of the year there may be photographic examples of well-grown fruit &c. growing or otherwise, that would be worthy of reproduction. The Editor would be pleased to have such subjects for consideration and probable use. He does not guarantee to pay for prints unless by special agreement.

An Observer's Notes.

Under this heading there are many short interesting notes our readers might send.

Bats now begin to flit about, and soon the cockchafers emerge from their pupal state. Butterflies, bees, and wasps are not uncommon at this season, on fine days.

Vegetation progresses apace at Kew, and by the lake in the Royal Gardens a tree of *Salix babylonica* has leaves quite half an inch long. Some of the *Prunus* tribe are in flower. Amongst all the Bamboos at Kew, the one that has suffered least from the recent frost seems to be *Phyllostachys henonis*. *Rhododendron Nobleanum* is in full flower.

A Cabbage now on view at Coombe Farm Dairy, Dorset, in the shape of a fan, measures from the bottom of the root to the top of the plant 24 in, across top of fan 24 in, from bottom of fan to the top 18 in.

Every churchgoer in Rhavadar was astonished last Sunday morning (March 2) to find that all the Crocuses and Snowdrops, which grow in the parish churchyard in vast numbers, were densely covered with bees. The presence of bees at least a month earlier than usual is interesting, and local apiculturists cannot recollect such an occurrence before.—("Western Mail.")

Heron are again building their nests in the trees at Wanstead Park. * * * Primroses are now being sent from Lostwithiel, Cornwall, to all parts of the country.

Birds in Their Old Nesting Places.

That birds do return to old spots is apparent in the case of a pair of robins which have nested in our yard for three or four consecutive years. The female is extremely pugnacious, fluttering into one's very face, scolding vehemently if we chance near her nesting place. The male makes almost as many threats, but he always takes a perch on a tree near by, just out of reach—

and, I may add, out of danger. At first he assumes a most threatening air. But when this fails he confesses that his maximum is reached. Not so with his mate, who descends to the lower limbs, bristling like a mad hen. And in one or two instances she has even flown against the bonnet of the offender. The demonstrations of this pair are so pronounced as to be readily recognised from year to year. They always build in a Norway Spruce, of which there are several side by side. But never have they twice chosen the same tree.—BESSIE L. PUTNAM (in "Meehans' Monthly.")

Covent Garden Market.—March 19th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.		
Apples, cooking, bush.	6	0 to 8	0	Grapes, Alieante, lb. ...	1	0 to 1	6
„ New towns,				„ Colman ...	1	0	1
case ...	10	0	12	„ Muscat ...	3	6	5
Bananas ...	8	0	12	„ Almeria ...	0	0	0
Cranberries, 30 to 36 qt.				Oranges, per case ...	10	0	25
consignment ...	9	0	10	Pears, French, crate ...	12	0	0
Dates, red V., doz. bxs.	5	6	0	Pines, St. Michael's,			
Lemons, Messina, case	12	0	16	each ...	2	6	3

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	2 0	to 3 0	Lettuce, Cabbage, doz.	1 3	to 2 0
„ Jerusalem, sieve	1 6	0 0	Mushrooms, forced, lb.	0 5	0 6
Batavia, doz.	2 0	0 0	Mustard & Cress. pnnt.	0 2	0 0
Beans, French, per lb.	2 0	0 0	Parsley, doz. bnchs. ...	2 0	3 0
Beet, red, doz.	0 6	0 0	Potatoes, English, cwt.	4 0	5 0
Brussels Sprouts, $\frac{1}{2}$ sieve	2 0	3 0	Radishes, doz.	1 6	0 0
Cabbages, tally	1 6	3 0	Seakale	0 9	1 0
Carrots, doz. bnch. ...	2 0	2 6	Shallots, lb.	0 2	0 3
Cauliflowers, doz. ...	2 0	3 0	Spinach, bush.	2 0	3 0
Corn Salad, strike ...	1 0	1 3	Sprue, French, dozen		
Cucumbers doz.	10 0	15 0	bunches	8 0	9 0
Endive, doz.	1 0	1 3	Tomatoes, Canary		
Herbs, bunch	0 2	0 0	consignment	6 0	0 0
Horseradish, bunch ...	1 6	0 0	Turnips, doz. bnch. ...	2 0	3 0
Leeks, bunch	0 1 $\frac{1}{2}$	0 2	Watercress, doz.	0 6	0 0

Average Wholesale Prices.—Plants in Pots.

Most of the undermentioned plants are sold in 48 and 32-sized pots.

	s. d.	s. d.		s. d.	s. d.
Aralias, doz.	5	0 to 12 0	Ficus elastica, doz. ...	9	0 to 12 0
Araucaria, doz.	12	0 30 0	Foliage plants, var, each	1	0 5 0
Aspidistra, doz.	18	0 36 0	Grevilleas, 48's, doz. ...	4	0 5 0
Azaleas, white and			Lycopodiums, doz. ...	3	0 0 0
coloured, doz.	30	0 36 0	Marguerite Daisy, doz.	8	0 10 0
Crotons, doz.	18	0 30 0	Myrtles, doz.	6	0 9 0
Cyclamen, doz.	6	0 9 0	Palms, in var., doz. ...	15	0 30 6
Cyperus alternifolius			„ specimens	21	0 63 0
per doz.	4	0 5 0	Pandanus Veitchi, 48's,		
Dracæna, var., doz. ...	12	0 30 0	doz.	24	0 30 0
„ viridis, doz.	9	0 18 0	Primulas	3	0 4 0
Erica caffra	15	0 18 0	Shrubs, in pots	4	0 6 0
„ Wihnorcana	9	0 12 0	Solanums	8	0 10 0
Ferns, var., doz.	4	0 18 0	Spiraea japonica, 48's,		
„ small, 100	10	0 16 0	doz.	6	0 8 0

Average Wholesale Prices.—Cut Flowers

	s. d.	s. d.		s. d.	s. d.
Aeacia, per pad	6	0 to 8	0	Lilium lancifolium alb.	2 0 to 2 6
Anemone, double pink,				,, l. rubrum... ..	2 0 2 6
per doz.	1 6	0 0		,, longiflorum ...	3 0 4 0
Arums, doz.	2 0	3 0		Lily of the Valley, 12	
Asparagus, Fern, bnch.	1 0	2 0		bnchs	6 0 12 0
Azalea mollis, per bun.	1 0	0 0		Maidenhair Fern, doz.	
Bouvardia, white,				bnchs.	6 0 8 0
doz. bunches... ..	6 0	8 0		Marguerites, white,	
,, coloured, doz. bun.	6 0	8 0		doz. bnchs.	2 0 4 0
Camellias, white... ..	1 6	2 0		,, yellow, doz. bnchs.	2 0 0 0
Carnations, 12 blooms	1 3	1 9		Myrtle, English, per	
Cattleyas, doz.	8 0	12 0		bunch	0 6 0 0
Croton foliage, bun. ...	0 9	1 0		Narcissus, Soleil d'Or..	1 0 1 3
Cycas leaves, each ...	0 9	1 6		Odontoglossums	4 0 0 0
Cypripediums, doz. ...	2 0	3 0		Orange blossom, bunch	2 0 3 0
Daffodils, single, doz....	1 0	2 0		Primula, double white,	
,, double ,,	1 0	2 0		doz. bunches... ..	6 0 8 0
Eucharis, doz.	2 0	3 0		Roses, Niphetos, white,	
Freesias, doz. bunches	2 0	3 0		doz.	1 6 3 0
Gardenias, doz.	6 0	0 0		,, pink, doz.	4 0 6 0
Geranium, scarlet, doz.				,, yellow, doz. (Perles)	2 0 3 0
bnchs.	4 0	6 0		Smilax, bunch	3 0 4 0
Hyacinth, Roman,				Tuberose, gross	0 0 10 0
doz. bunches... ..	5 0	6 0		Tulips, white, single,	
Ivy leaves, doz. bun. ...	1 6	0 0		doz. bun.	6 0 8 0
Lilac, French, white,				,, scarlet, single,	
per bunch	4 0	4 6		doz. bun.	4 0 5 0
Lilium Harrisii	3 0	4 0		Violets, single, doz ...	1 6 0 0

Trade Catalogues Received.

Barr & Sons, King Street, Covent Garden, W.C.—*Hardy Perennials, Alpines, Aquatics, &c.*
 J. Cheal & Sons, Lowfield Nurseries, Crawley, Sussex.—*Dahlias, &c.*
 Alexis Dallièrre, Chaussée de Bruxelles, Gand, Belgium.—*Spring Prize List.*
 John Peed & Son, Roupell Park Nurseries, West Norwood, London, S.E.—*Begonias and Gloxinias.*



Vermin and Other Things.

What is vermin? "All sorts of small animals or insects which are destructive to grain or other produce," says the dictionary. And what has the farmer to say about vermin? Only this week we see a farmer writing to an agricultural paper, and classing rooks, rabbits, and hares together as vermin, and wishing he had them all in a pie. Well, if the rooks were young, they would be all right; rabbits, too, make a good pie; but is it not rather desecration to talk of pieing hare? She roasts and "jugs" so well! Perhaps some of our readers will not look upon any of the three as vermin. So much depends upon situation and climatic influence. Years ago, longer than we like to remember, we used to see a small paper, the organ of the Anti-Game Laws Society. There was at that time need for that society. In many of the game preserving counties the number of hares kept for sporting purposes was simply awful, and to take the life of a hare was equal to getting notice to quit. No one nowadays would believe what a pest they used to be. The merry brown hares came leaping over the Clover grass, aye, and they took their fill of it, too, or of the young succulent corn. It used to be said that one hare would eat and damage as much as three sheep. The damage was worse than the actual consumption. Then rabbits, too; there was a limit to hares, but none to rabbits. Nothing short of a plague would lessen their numbers. Fortunately rabbits require dry land, and a really wet time will do much to stop them. Things got to such a pass as to call for the Hares and Rabbits Bill. Really, we believe, this measure was helped on by the Anti-Game Law League. Good as the measure is, it is often evaded or set aside; but it has done much to mitigate the evil of excessive ground game in many places. Where a landlord is a shooting man, and expects tremendous "bags" in November or December, and is withal a popular good man, he can always find a good supply of hares and rabbits. In a district which we have in mind just now, great breadths of Swedes are grown, for many sheep are wintered. Now, these Swedes are sweet, and good and pleasant eating, and when herbage is short, the hare makes for the Swede field, and leaves her mark, not on one consumed Turnip (that might be forgiven), but on many, just as though she were sampling the close. Frost comes, rain falls, the wounded root is soon spoilt by one of the two agencies, and there is a gap in the row. This spring, when all early vegetation has been kept back by frost, the hare is very predatory, and her traces are everywhere. She is getting a bit tough, too, so that even there is but small consolation in a "roast."

The dictionary defines a rook as a "trickish, rapacious fellow," and so he is. He is not frightened of you, and will hover round and about the homesteads "seeking what he may devour." We have seen them watch hens to the nest, and patiently wait till the egg, being laid, there was a pleasant meal assured. Potatoes we have often found under their nests, and they take toll of every grain sown. Swedes, too, they attack, and their beaks are as strong as iron. But perhaps it is later on in the season when they become the greatest pests. When the small, tiny Turnips

are well up and away, possibly been singled, down comes Master Rook in battalions, and he will soon let you know what he thinks of the new "green." Mind, the charitable suppose his quest is the wise worm or beetle. It may be so, but he, like ourselves, prefers a vegetable with his meat.

But we know of worse enemies than the rook, bad as he is. We have a liking for his caw-caw, and we should miss the rookeries he makes cheerful in the spring. His black coat is handsome, and his flight has a stateliness about it. The wood pigeon is the enemy we most dread. Not only have we the English-bred bird, but hosts upon hosts of foreigners reach our shores. We have heard much this winter, we hear much every winter, of the perishing of the young Clover plant. Now, it is not all frost, or bad growth. There are other agents at work, and how can Clover or any other thing grow when it is not only loosened from the soil, but its very heart torn out and eaten? Shoot a wood pigeon to-day, and just examine its crop. The chances are that it will be found to be literally stuffed with Clover leaves, each bird as full as a gun. We have ourselves filled a small basin with the contents of one crop. Fine Clover, that ought to have been growing on for ewes and lambs. We do not suppose the non-agricultural world knows, or guesses, a tithe of the mischief these birds can do, nor can they estimate at all their numbers. Later in the season they will attack ripening corn, and positively gorge themselves on the creamy soft grain. They take care to leave nothing much for the farmer but broken stalks and down-trodden rubbish. Of course, their worst depredations are on the side of the field nearest a hedge, a hedge that probably is intersected with trees. There is one thing to be said for them; when shot (and they are not easy game) they make pies or a roast.

Larks, too, are a great nuisance in those parts where they abound. They usually confine their efforts to the newly springing grain, and if they have a predilection, it is for Wheat. Sparrows are domestic fowl; they are found more in the neighbourhood of the village or farm, and woe to those fields of corn which are near at hand. He is a bold bird is the sparrow, and too small and bony to be worth powder and shot (even if you can get near him). The best safeguard against the sparrow is a posse of active school-boys. No nest daunts a boy, and it is better to crush the crocodile's eggs than to wait to kill the animal when hatched.

There are other vermin afoot, but we must speak with bated breath. He is little, but he can be very mischievous, especially when Mrs. Vixen is "at home" with a brood of pretty cubs. They clamour for food, and what so well suited for the young stomachs as tender chicken? Unhappy, "Papa" has a way of killing more than he can carry off. Does he mean to come again, or does he over-estimate his carrying powers? Poultry people tell us (and very truly) that our fowls do best with unlimited run, taken out in fields in companies, and they do well, that is, if Mr. Reynard is not afoot. Hunger makes him bold, and he will be after any unwary fowl who shelters in or about the home buildings or stacks. He likes them full grown, or nearly so; whereas the tiresome rat prefers the baby chicken from the coop. He will come time after time and clear the lot. Rats about a farmstead are insufferable nuisances, for all's fish that comes to their net. Meal, corn, pigeons, new bags, and young poultry. Many a good cote have we known been ultimately destroyed by rats, and it is almost beyond the power of man to do away with them. The best preventive is a sharp little terrier, always on the alert. He keeps them moving, and oftener than you would think "clicks haud o' yan," as we say in Yorkshire, and he "clicks" to some purpose, for that rat never wants food again.

We wonder how many Wheat stacks there are standing unthreshed? Judging by our own experience, not many. It is a curious thing that a mouse is rarely found among Barley or Oats; always in the best grain, and it is the love of the mouse for Wheat which is one of the factors against keeping it in stack too long. We are told, or, rather, it is suggested, that Wheat be kept the twelve months in vermin-proof stacks, to be a supply in case of war peril; but we fancy it will beat our advisers to manage that.

There are other nuisances abroad, and there is one in particular which is an evergrowing evil. We mean the outrageous "fields" that pretend to hunt. All the well-known and popular packs of hounds have followers galore. Everything is made so easy now. Distance is conquered by a fast train service or the detestable motor, and instead of a small field of genuine sportsman and women, we find the

towns pour out their hordes of—dare we say it?—unspeakable ruffians, who gallop, and shout, and thrust themselves anywhere, having no regard for young Wheat or Clover, or for the vicinity of the sheepfold, let alone fences. A master to keep them in order? Why, they need a regiment! No wonder many farmers look very much askance at this motley crew, who only do them harm, never by any chance buying horses or forage or other agricultural product. It is only by the courtesy of the farmer that hunting is at all possible, and it is a question what can be done to prevent this evil, and how long the farmer will endure it? We read a pretty anecdote the other day of that great and good Yorkshire and Irish landlord, the late Lord Fitzwilliam, which showed the good state of feeling that existed between him and his tenants, and also showed that the farmer in question could be as liberal as his landlord. A tenant made a complaint of the great damage done to a field of growing Wheat by the followers of his Lordship's hounds. Truly, the field presented a sorry spectacle, cut up and trampled in every direction, and the Earl most willingly paid the farmer for the damage he had sustained. When harvest came, the field had so far recovered itself as to yield well, whereupon the grateful farmer jogged off to Wentworth Wood House, and returned the money he had received in the spring. Whether it was a wedding, or a coming of age, at the farm, we forget what; but at the next suitable opportunity a very handsome present conveyed to the farmer the sense of the Earl's appreciation of his conduct. It is a pretty story, and we believe, a true one.

Work on the Home Farm.

Except for a drizzly afternoon, the weather has been fine and warm; but the nights are still foggy and damp, and the surface of the land keeps sticky. This is unfortunate, for the rolling of lea Wheat is becoming an urgent necessity. The plant is dwindling rapidly, and unless there is an early chance to solidify the soil, some fields will soon be ready for ploughing up. What we want is a good March wind. Last year at this time Wheats were too thick on the ground, which partly accounted for the eventual shortness of straw. This year they are too thin—i.e., as a rule; let us hope the straw may be longer. Wheat at the present price can hardly afford to pay for top dressings, but where it is suffering from wireworm a dressing of rape dust might save the crop. 5cwt per acre at £3 per ton comes to 15s. per acre. If damaged cotton cake could be bought cheaply it would make an efficient substitute.

Not much Barley has been sown yet; farmers have suddenly stopped the drills, and Potato planting is the vogue. It is curious to see how farmers follow each other in these matters; they are very much like a flock of sheep in that respect.

In connection with sheep, there is a fair record. Ewes are doing well in lambing, and the crop of lambs, if a little below the average, is a healthy one; whilst the improvement in the mutton trade has been as sudden as it was unexpected. Sheep all round are much dearer, fat ewes having risen 8s. to 10s. per head. The fact is as it was two years ago—really good fat mutton is scarce, and people who want a good big joint will have to pay for it.

The scarcity of fodder is making us turn our cattle out, and the fine mild weather makes an excellent opportunity. If turned out now, they will stand a good deal of cold and roughing later on. It is the sudden change from warm yards to cold, bleak surroundings that is dangerous.

The foaling season has commenced, and the veterinary surgeon, as it would seem, as a natural consequence is sadly over-worked, and no doubt is making satisfactory entries (to him) in his ledger. Wise farmers insure their foaling mares, which policy would rather increase the vet.'s practice than otherwise, his satisfactory inspection of each mare being a strict condition of insurance. But some farmers, also wise in their generation, give a bonus to the horseman for each foal reared by the animals he looks after. It may be bribing a man to do what should be his duty without it, but we believe the system pays. Waggoners do not like to lose their best-looking animal from the team for indefinite periods, and some strongly counterbalancing interest must be provided if foals are to be bred and successfully reared. Of course, mares in foal may be removed to other quarters, and placed under fresh superintendence; but this is not always possible, or often convenient.

Merchants complain that although Clover seeds are rising in price farmers will not buy. This does not look like early sowing, and yet last season, as in all dry ones, it proved to be the right policy. There is no way so certain to secure a good Clover plant as sowing behind the Barley drill and narrowing in with the corn. It must be the fear of too much Clover in the string bound sheaves next harvest which deters farmers from following a very old-fashioned method. We might do without string binders, but can we afford to dispense with the Clover crop? No!

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Journal of Horticulture.

THURSDAY, MARCH 27, 1902.

Spring Gardening 250 Years Ago.



I AM employing the number "250" with a certain amount of elasticity, and it points, therefore, not to a particular year, but rather indicates a period—the middle of the seven-

teenth century. People who

imagine it is only in these present

days that gardening has ever thriven

may look for a very bald statement, but if

it proves so the blame must fall on the

portrayer of the time, and not the period

itself. Nor must we be led astray by the

thought that the date suggests the Crom-

wellian supremacy, when gardening might

not unnaturally be thought to be at a low

ebb. As a matter of fact it was just during

this period that both Agriculture and Horti-

culture took a stronger grip of the Englishman's

mind than at any time previously.

The fruit-growing habit was more largely

formed all over the Island, and the production

of the florist flower man as a distinct type

was evolved. We may not say there was the

same amount of material to work on in

gardens, but taking into consideration the

fact that gardens at this time were small in

extent compared to those of to-day, it will

not be amiss to conclude that as well the

Cavalier and his dainty Diana, as the Round-

head with his demure Priscilla, found a good

selection of charming flowers to beautify the

parterre by the east window and the

"Bordures" that cut off their close-clipped

hedges from the straight-lined walks of their

gardens.

It would be a remarkable coincidence that

we know much more of the florist of 250

years ago than of any other class of gardeners,

if it had not happened that this has always

been the case. The florist, from the manner

he employs his floral affections, is a little bit

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transcendental; common flowers do not attract him till he has put something of his own personality into their petals. Then they become to him the only flowers worth attention, and thus it is that we have the names of a score of florists transmitted to posterity, where the ordinary gardener is left to obscurity. But then, as now, there were florists among gardeners, as the younger Tradescant, noted for his Auriculas, and Bobart, of Oxford Botanic Gardens, for the same plants. Nor would Mrs. Buggs, of Battersea, nor Mrs. Tuggie, of Westminster, have ever been heard of in these times had it not been for the florist flowers they cultivated. The same would have been the fate of Mr. Rickets, of "Hogsden, neere London," but for the hundreds of varieties of Tulips and Auriculas he propagated for sale. It was to this eminent class, too, that is due the honour of bringing the Asiatic and European Anemones, and the Asiatic Ranunculus, with Eastern Hyacinths, to the front. These were as yet not numerous, whereas Auriculas, which about this time broke into a race with striped petals, the forerunners of the edged flower of the succeeding century, were conspicuous by the great variety of sorts cultivated. The more select kinds were even now cultivated in pots, as being a handy way of moving them under cover when the blooming period arrived. They were sold at from £1 to £20 a plant, and the seedlings, which failed to gain an entrance to the upper charmed circle, were disposed of to "Cheapside" gardeners, who retailed them to the less knowing at a shilling each, or they served to fill parterres in ordinary flower gardens.

Auriculas were genuine English productions, but Tulips were importations from the Netherlands. However, they were cultivated in hundreds of varieties to a number that present gardeners do not attempt to emulate. They were cultivated solely in beds or borders in three classes, of which *Précoces* were the earliest, *medias* the most numerous, and *Serotines*, from *Tulipa Gesneriana*, the latest. The earliest Tulip was "The Winter Duke, so called in respect it flowereth commonly in Winter, that is, before the tenth of March, at which time the Spring beginneth." This variety is still cultivated as *Duc van Tholl*, and *Claremont* belongs to the same period.

Hyacinths were only a few in number, the finest a kind called *Zumbul*, or *Zeboin*, from which others of various colours were derived as seedlings. There were also two or three double flowered kinds. Anemones were more important, the sorts being imported annually. They were divided into two classes—the broad leaved *A. hortensis*, and the narrow leaved *A. coronaria*. Of the former only a few single and double sorts were cultivated, the commonest kind being known as "Spanish Marigolds," "Robin Hood," or "Scarlet and Joan." The *Coronaria* varieties were very numerous, mostly double; but of these single flowered sorts, too, were grown in gardens. *Ranunculus asiaticus*, which afterwards became so common, was as yet confined to a few varieties.

Crocuses were very numerous in kinds, and the *Snowdrop* could be had, though it appears not to have been appreciated. Winter Aconite was common, and there was a nice variety of *Scilla*, such as *bifolia* in its sorts, and *V. verna* in three kinds, and *Muscaris*, as *botryoides* in white and red sorts, and *M. racemosus*. *Fritillaries* were represented by several species, the common *Meleagris*, with white and double white flowers, among them. *Narcissus* were made somewhat of a speciality in the earlier part of the time under notice, and a much better collection was grown then than at any other period till lately. Spanish Trumpets, or *Jonquils*, and *Narcissus odoratus*, were in much request; but it is notable of the "Pseudo" group none but doubles were cultivated in the gardens of the curious.

Other flowers represented were Wallflowers in several varieties, the finest yellow going under the name of "Yellow Dutch Violet," and the finest dark form "The Bloody Warrior." Stocks were equally well liked, the finer kinds being increased by means of cuttings. Daisies were grown in many sorts. Of *Hepaticas*, Parkinson describes ten sorts. *Erythronium Dens-canis*, *Leucojum vernum*, *Primroses* in great variety, including *Polyanthus* forms; Cowslips, single and double; double Marsh Marigolds; and *Ranunculus Ficaria* fl.-pl. *Iris pumila* in variety. Several kinds of

Violets, both double and single, double Wood Anemone. Pasqueflowers, *Adonis vernalis*, double Lady's Smocks, *Gentiana acaulis*, and *Pulmonaria officinalis*, are some of the commoner kinds. A garden was not complete without Southernwood, Lavender Cotton, variegated Thyme, Balm, "Gardener's Garters," Cherry trees planted in hedges, Almonds, Peaches, Lilacs, *Syringa persica*, *Laurus nobilis*, *Cupressus sempervirens*, and *Daphne Mezereum*.

The question remains, How were these and other flowers disposed in gardens? A writer of the period proposes three methods. First, to intermix the plants according to height and colour, so that no plant of the same kind, nor any one colour, is placed in juxtaposition. Second, to plant in blocks of one kind right across the border, as, for example, a 5ft square of Tulips, of Crocus, Cowslips, Anemones, or Auriculas. And lastly, by planting each bed with one only sort, because, as it is quaintly remarked, these "will have a great shew, and at a great distance." It is hinted that annuals may be brought on to fill blank spaces. One might say that these arrangements are better than might have been expected, but it would be nearer the truth to say they exhibit not a little far-sightedness, and much appreciation of the capacity of plants to make a bright display in the cold months of spring. Perhaps they were not adopted by many; certainly, if adopted, they were quickly forgotten, and it is only of late that the adaptability of spring flowers for massing has been recognised.

Space forbids indicating how the gardener filled in his time during spring making hotbeds on which to sow Balsams, Love Apples, Cockscombs, Celosias, Date Palms, Cannas, African Marigolds, Scarlet Runner, Sensitive Plants, &c.; or how he clipped his Cypress trees with exceeding care, and then enveloped them in straw wisps; or how, during cold weather, he protected his "most precious Anemones, Auriculas, Brumal Jacynths, Early Cyclamens," &c. Or how he joyfully welcomed a day of sunshine or balmy weather to open the shutters of his greenhouse, or to lift the inmates out of doors to enjoy the life-giving spring. Enough to say he had, or might have had, a delightful garden of lovely flowers, and pleasant occupation preparing for the future.—R. P. BROTHERSTON.

Variorum.

Houses for Violets

Is the latest fashion in the growth of these favourites of everybody, and it is surprising how well they flourish under this latter-day condition. Time was when frames only were considered the one needful provision for success in Violet culture, where, on every favourable day, the lights could be removed to expose the plants to the direct influence of air, rain, or sunshine. The famous Violet specialists, Messrs. I. House and Son, of Westbury-on-Trym, have recently erected houses for the special purpose of Violet culture in winter, and the success of the past, with this newer equipment would seem to imply even greater possibilities in the near future. In another market establishment I saw large potfuls of the single variety, *Princess of Wales*, in splendid health, and throwing up quantities of bold-looking flower buds—much better, in fact, than any I have seen in frames. The span-roofed market type of glass house is that in which they do well; lean-to structures of the private garden do not afford the same conditions, and are not so well adapted for this phase of Violet growth. Air and light are two of the great factors of Violet culture, which are the attribute of the span-roofed rather than the lean-to structure.—W. S.

The Lawn.

This pleasing ornament, if well swept, will now require frequent rolling and mowing. If worm-casts appear procure some quicklime, and put in a common pailful of water a lump of lime about the size of a football. The lime should be unslaked. Let it stand till the water is quite clear; then with a rather coarse rose water-pot sprinkle the grass plot freely till the worms are all killed. The lime water will more readily reach the worms if you rake off the worm-cast, and so open the holes the worms make to cast up the earth. If one pailful is not enough for your lawn, make the lime water in a vessel large enough to hold sufficient. Should one application not kill all the worms, apply it a second time, which will generally quite destroy them. Should worms be troublesome in your flower beds or plants in pots, lime water will kill them there, as well as on the grass plot, and will not injure the most delicate plant.—T.



The Week's Cultural Notes.

Now that the plants are beginning to grow freely a general rise of temperature all round will be necessary. In the hottest house, where Phalænopsids and East Indian kinds generally are grown, the night temperature should not fall below 65deg, rising 5deg by fire heat by day and from 15deg to 20deg by sun. The Cattleya house may be 5deg lower, the Mexican another 5deg, while the cool house will be best kept at about 50deg as a minimum, rising 10deg by day. Increased atmospheric moisture in all the houses will, of course, go hand in hand with the higher temperature. Repotting of many species will now be in full swing. Thunias in the warm house are starting to grow at the base, and must be got in the new compost without delay. When shaking them out of the old pots leave a couple of inches or so of the old roots attached to the stems, as these will help to steady them in position a little. Allow the base of these to just rest on the new compost, and place a stake firmly to each one. For compost use good fibry loam with plenty of chopped sphagnum and crock dust added, and drain the pots thoroughly. Give no water until roots begin to push from the base of the new growths.

Quite a different class of Orchids are the Miltonias, from the Brazils, including *M. cuneata*, *M. spectabilis*, and its near relation, *M. Moreliana*, *M. Clowesi*, and others. These, too, require attention at the roots now. None of them like a thick mass of compost, especially the three first named, shallow pans or baskets being more suitable than deep pots. The peat and moss used for them should be carefully selected, retaining the rougher portions for use with stronger-rooted kinds.

All the old material, or as much as can conveniently, should be removed from about the roots, as when this is left it is difficult to tell whether the plants need water or not.

In some cases the centre of fairly large specimens will be found bare, and unless these are particularly needed it is best to break them up, cutting through the rhizomes, and making up the plants afresh. Considerable care is necessary in fixing the various portions, especially such as have few roots, and here pegs or stakes must be resorted to. After potting the plants should be given a slight shade in the coolest part of the Cattleya house.—H. R. R.

Lælia anceps Amesia.

This handsome Mexican variety requires an intermediate temperature in order to afford it justice and to ensure health and vigour. Some years ago (1893, to be exact) the variety was shown from T. Statter, Esq., of Stand Hall, Manchester, before the Orchid Committee of the Royal Horticultural Society, and received a First Class Certificate. The form, as our illustration shows, is a very fine one, though, of course, during more recent years there have been better varieties from *L. anceps* certificated. The sepals and petals are white, tinted rosy-purple at the tips and base. The lip is of medium size but of deep purplish-crimson, and the yellowish throat is richly veined. It flowers during the winter.

Seedling Hollyhocks.

Whilst on a very pleasant and enjoyable holiday to my native heath during the first week in October last year, amongst other places I had the pleasure to visit was Eslington Park, reposing so snugly in the fertile and expansive basin between the celebrated Cheviot and Simonside range of mountains, in Northumberland. On my arrival I soon found my friend, Mr. Joseph Oliver, busily engaged amongst his lovely hosts of Hollyhocks, and being a grower, and amongst Hollyhocks all my life, our interests were quickly centred on these. Mr. Oliver is a most careful raiser of seedlings, and I was fortunate to find a few of his best varieties in bloom. Amongst several others was one named Charles Baron, a really magnificent sort, with large, bold, massive flowers, perfectly full, and free from "pockets," and having fine guard petals. It is deeper in colour and larger in flower than Queen of Yellows, which is, in my opinion, saying a good deal for the Charles Baron. There was also another yellow of a lovely primrose hue, somewhat lighter in colour than Gem of the Yellows. It is perfect in form and finish. The next was a pure white, named by Mrs. Oliver "Peerless"; a full and very refined flower, well balanced, with a fine guard petal, after the

build of Chater's Le Grand, but I certainly think this will be a better and heavier bloom than the latter variety. The last I am about to mention, but certainly by no means the inferior in a noble quartette, is one absolutely virgin white, a variety which I asked my friend to be allowed the honour of naming, and which was as quickly granted, with the remark "That he did not know any man who, in his opinion, was better qualified to perform the ceremony than 'yours truly.'" I at once named the queen of the lot "Mrs. Joseph Oliver," as a fitting name for a chaste and charming flower of Nature's own production! I was really more delighted with this variety than with any Hollyhock I ever previously beheld. Of yellows there are many; also pinks and reds and rubies a goodly supply; but of pure whites up to exhibition standard there are very, very few, and certainly none to come near Mrs. Joseph Oliver. The flowers here are a pure, clear, shining snow-white. They are large in size, perfect in form, both in ball and guard petals. These are all high centred flowers with plenty of breadth, which do not taper, but are finely shouldered.

There were hosts of other hardy flowers at Eslington, all in their way most magnificent, and grown in large batches. In the flower garden, of exquisite beauty, stiffness is rigidly avoided in all directions. The luxuriant growth of everything I saw was, on first sight, a marvel to me; but the somewhat low situation, and deep, moist, well-cultivated soil and humid atmosphere, fairly accounts for the unusual and giant growth. Another subject noticed was a long row of a new Delphinium which Mr. Oliver has raised, and these possess a very dwarf and sturdy habit, having long spikes of fine blooms—in my opinion a big step in the right direction, as many of the Delphiniums are much too tall. Much more could be said of the glories of Eslington, but on commencing this note my intention was just to mention a few of the seedling Hollyhocks. Hollyhocks are now generally grown on the coolest treatment throughout, and under such conditions they are more robust and much less liable to the disease so common a few years ago. I may be allowed to mention a few of my credentials (not from any egotism, but to show that I understand what I am talking about, and to emphasise the merit of Mr. Oliver's productions). The writer has shown 104 stands of cut blooms of Hollyhocks at all the best exhibitions, and won 101 first prizes.—GEO. FINLAY East Layton Hall Gardens, Darlington.



Lælia anceps Amesia.



More Hybrid Wichuriana Roses.

Rose hybridisers have found a hobby, the last five years, in creating novelties with the Wichuriana as one of the parents. The varieties produced have all, perhaps, been commendable, but before long it will doubtless be overdone, the variations so slight as to be unnecessary and confusing. The variety Pink Roamer, one of the first set produced, can hardly be excelled as a single-flowered variety. Now we have among recent creations Lynch's hybrid, a semi-double, pink flower containing Général Jacq. blood; Dorothy Perkins, a double pink, originating with Messrs. Jackson and Perkins, and having Mad. Gabriel Luizet Rose for one of the parents; and Pink Pearl, a double originating with Manda and hybridised with Meteor. Doubtless, there are others already on the market or that will soon be disseminated. They all have more or less the habit of the Wichuriana, which is popular in so many ways, observes "Meehan's Monthly."

Coronation Roses.

Millions of Rose blooms will have to be produced for Coronation decorative purposes, and we have been asked to estimate the amount of Rose blooms that will be required to meet the demand for Coronation week. We are loth to undertake the task lest we start the whole trade making bets. However, we have figured out that if one-fourth of the entire population of the United Kingdom wear a Rose each, every day for a week at Coronation time, 60,000,000 blooms will have to be provided by Rose growers. These 60,000,000 blooms will, on a fair average, give a total weight of 1,877,777lb, that is equal to 16,765cwt; and if loaded into railway trucks holding five tons each, about 170 trucks would be needed to bring the 60,000,000 Rose blooms to the markets. Whole regiments of market porters would be needed to unload them, and thousands of market men, retail florists, flower girls, and street hawkers would have to walk almost night and day for a week in distributing blooms which Dame Nature compounds, seemingly without any effort, simply from water and air.—"Fruit Trade News."

Certificated Plants.

(Concluded from page 202).

Mimuli.

We, no doubt, owe our present forms of the garden Mimulus to the crossing of *M. luteus* with forms of a rather more woody character; some have supposed with *M. glutinosus* or *M. aurantiacus*, both, doubtless, identical, and known in catalogues as *Diplacus glutinosus*. It is probably to this or a similar cross we have a hardy perennial variety known as *M. Tillingi*, which dies down in the autumn and reappears in the spring. Perhaps the blood of *M. cardinalis* has been employed in producing such a persistent and strong growing form. The present race of large flowered Mimulus are indebted to the blood of *M. cupreus*, the Coppery Mimulus, a native of Chili, from whence it was introduced by Messrs. Veitch and Sons in 1861, and was honoured with a medal. Later on Messrs. E. G. Henderson and Son distributed a strain in which the large crimson blotches were replaced by dense small spots, but it proved variable from seed. In the same year Mr. W. Bull gained a First Class Certificate for a fine variety of maculosus named Marvel. In 1865 Mr. Bull obtained a First Class Certificate for a hose-and-hose form known as duplex, but it could not be depended upon to reproduce itself from seed. This form will occasionally appear among present-day seedlings. In 1883 I obtained a First Class Certificate for a crimson flowered variety named Brilliant, which, in 1889, I exhibited in a form greatly improved by selection, under the name of grandis, and it received an Award of Merit. In 1887 Messrs. Carter and Co., who had been successful in originating a large flowered strain, under the designation of Jubilee Queen's Prize, received a First Class Certificate for it. In 1883, Messrs. Veitch and Sons exhibited a very distinct species named radicans, a native of New Zealand. The flowers, white, with a violet blotch, are attractive, hardy, perennial bog plants. Singularly enough, though, the old scarlet species, *M. cardinalis*, is susceptible of hybridism and cross-breeding, it does not appear to have become the progenitor of any form I am acquainted with like itself. At the Hassocks Nurseries of Messrs. Balchin and Sons attempts have been made, with commendable success, in a certain direction, to obtain a red flowered form of *M. (Diplacus)*

glutinosus, by cross-fertilising, the darkest forms obtained as seedlings from the species. If this and *M. cardinalis* could be crossed successfully, valuable results might be obtained.

Muscari.

Three forms as representative of this genus have received awards, viz., *armeniaceum* and *ligulatum*, when shown by the Rev. Harper-Crewe in 1882, and *conicum*, by Messrs. Barr and Sons in 1897. The latter is a very distinct species, producing larger spikes of brilliant blue blossoms, but it does not appear to have become much cultivated. It received a First Class Certificate of Merit. The fragrant *M. moschatum* have also had its improvements by means of seed. The first was the form known as Harrison's Musk, which was obtained by crossing a large flowered Mimulus on to a common Musk, and from it came a type with good-sized well-formed flowers, handsomely spotted, and yet retaining the perfumed leaves. This obtained a First Class Certificate in 1876. In the early eighties, Mr. A. Clapham, of Scarborough, succeeded in raising three new varieties of Musks from seed, which I obtained, grew, and exhibited at meetings of the R.H.S. The first of these to receive a Certificate of Merit was *grandiflorum*, in 1883, a clear yellow large flowered variety, and true Musk. This was followed by *ruber*, a very dwarf, a compact, large flowered variety, with pale copper-coloured flowers and scented leaves. In May, 1884, I exhibited the third of the trio. This was of a close tufted habit, like that of *ruber*, but with the clear yellow flowers of *grandiflorum*. This was named Cloth of Gold, and received a Second Class Certificate, which, a fortnight later, when the plant was again exhibited, was changed to a First Class Certificate. I fear these three forms have become lost. In 1890 a form of Musk, named *compactum*, but quite distinct from any of the foregoing, gained an Award of Merit for Mr. Otto Putz. Mr. Clapham also originated a strain of very fine large flowered Mimulus, which is to be found in seed lists.—R. DEAN, V.M.H.

The Business of Market Gardener.

(Concluded from page 250.)

Mixed market gardening, that is to say the combination of much glass with extensive plantations of hardy fruit and many acres of vegetables and flowers, means much capital to start, and more than an ordinary capacity for work, good management, and skill. Such establishments are to be met with, but they are not exactly for one man alone. The proprietor rightly depends upon a good foreman for each department, and this ensures the requisite attention to all details at the right time, whereas under one foreman or master, as the case may be, one branch is apt to be neglected for others, just when good attention is imperative. The men most successful with these mixed farms or market gardens are those who have the benefit of their father's experience, forethought, and outlay of capital, another successful class being those who made a comparatively small start, and have gone on adding more land, more glass, and more fruit trees according as funds are available. Starting on a large scale with, it may be, borrowed capital, and without good previous experience is a most unwise proceeding, and likely to end in a bankruptcy court. Not a few inexperienced young gentlemen have come to grief in their ventures in the direction of buying going concerns in the Channel Islands and elsewhere, owing partly to having given far more for the property than it is worth. This is a reversal of the old saying: "Fools build and wise men buy," and I would strongly urge upon young gentlemen with capital at their disposal to be very chary indeed in believing one-half of what the vendors of such places have to say about them. Businesses paying 25 per cent. on the capital invested do not often change hands, and when vendors offer to leave half the purchase money in the business at 5 per cent., and, further, offer to stay and manage the concern for two or three years, this looks very suspicious indeed; or, in other words, as if they expect to get the whole property in their own hands again at no far distant period "for a mere song."

Mixed fruit and vegetable farms, with only enough glass on them for raising Tomato and other plants, are in certain districts decidedly profitable. The best men for working these are smart, active young farmers with enough backbone or capital to keep them "above water" during the first three or four years, or till such times as their fruit trees and bushes are bearing freely, and they have also found out what pays best to grow in the way of vegetables, as well as how to market them profitably. This class of farming is no child's play. To qualify properly for it, at least two years should be spent in market farms of the same description it is intended to start, and the department which the farmers, as a body, are most backward in—viz., hardy fruit culture—should receive special attention. I am acquainted with several admirably managed large fruit and vegetable farms in Kent and Essex, and have spent much time among the equally well-managed farms to be found near Evesham, Honey-

bourne, and Chipping Campden, and can testify to the superiority of the farmers as a class over those in districts where ordinary farming is still followed. There is a general air of prosperity in districts where market gardening is carried out on an extensive scale, the labouring classes sharing in the prosperity. When thirty acres and upwards of land are devoted to tree and bush fruits, ten acres to Asparagus, five acres to Tomatoes, thirty acres to Cabbages, and equally large breadths of Peas, Beans, Potatoes, and Brussels Sprouts are grown all on one farm, there is little need for enlarging upon the amount of the labour bill. These market farms are simply the making of a district.

What may be termed old-fashioned market-gardening, or the cultivation of a few acres by means of spade labour and excessively heavy manuring, and close cropping, principally with quick-growing vegetables, has of late years been rather hard hit by the building craze, noticeable in the vicinity of all large, prosperous towns, and also by the competition incidental to the multiplying of market farms. Holders of market gardens are being gradually elbowed out by the builder, though when they happen to be owners of the land they have not much cause to grumble. In bygone days this class of market-gardeners have succeeded by hard work and skill in amassing respectable fortunes. Whole ranks of good-class cottages in the suburbs of Bristol, for instance, are owned by men who commenced market gardening with very little money in their pocket. According to my experience, this class of market gardeners are very temperate, intelligent, and hard-working, the long days and toil making them to appear prematurely old. I once addressed a meeting of about fifty market gardeners, and before leaving, was startled to find that I was nearly, or quite, the oldest man in the room.

Beginners in this direction need not be burdened with much capital, as the returns are quick; but they must be prepared for much hard work, and, in particular, ought to be early risers. Much can be done with four acres of land; but eight to ten acres would be better with a view to benefiting by other people's labour. Nearness to a large prosperous town is most desirable, both because this saves considerably on the haulage of vegetables, which is best done by road, and also because this admits of loading back with cheap solid manure, without abundance of which it is useless to commence market-gardening on land rented at about £10 per acre. Everything should be made to grow as rapidly as possible, so as to be first in the markets, or before the market farmers appear on the scene, and an early clearance admits of another crop being quickly got. For instance, three crops of Lettuce are usually taken off one breadth of ground in a single season, and two crops of Celery are not unfrequently grown in the same trenches in one year. The manure is simply crammed into the ground, and this promotes rapid growth, as well as obviates the necessity for worrying about a rotation of crops. So freely is solid manure used in many market gardens that chemical manures, when experimented with, make no impression whatever. Naturally this heavy manuring fits the land for root crops more especially; but then there is not enough money in these, and holders of market gardens find it much more to their purpose to grow Asparagus, Cabbage, Celery, Lettuce, Rhubarb, Vegetable Marrows, Ridge Cucumbers, bunching Onions, and Radishes; others adding to these, early Kidney Beans, Turnips, Tomatoes, and Parsley. In conclusion, let me once more express the opinion that private gardeners in receipt of regular wages, and not unduly worried by their employers, will do well to be content where they are. If they wish to be independent, they must pay the price in the form of harder work and more worry. Young gentlemen and unsuccessful tradesmen without any previous training are again warned to be careful what they are at, as they may easily lose what capital they have in a market-gardening venture.—W. IGGULDEN.

Melons.

Hot-water-heated structures have proved their advantages over manure-heated pits and frames for forcing purposes, and, chambered, showed their superiority over rubble ones during the recent severe weather. Any plants shifted into larger pots and being intended for planting out should be given their rooting quarters before they become very much root-bound. Pot later-sown plants when they show the second leaves, employing warm moist soil. Maintain a night temperature of 60deg to 65deg, 5deg less on cold nights; 70deg to 75deg by day, admitting a little air at 75deg, allowing the temperature to rise to 85deg with increased ventilation, advancing to 90deg, closing the house by or before 80deg or 85deg is reached in declining order, and so as to advance 5deg to 10deg, sprinkling at the same time all parts of the house below the plants, even lightly sprinkling these on bright afternoons. Keep the bottom heat steady at 80deg to 85deg, or that of the soil 70deg to 75deg.—P.

Entomology.

Eradicating Woolly Aphis.

Inspector Vaughan, in his report to the Secretary of the Department of Agriculture of Western Australia, referring to the woolly aphis, says:—"Going recently through the orchard of Mr. W. Sounness, Marryup, Mount Barker, I was very much struck by the successful way he has fought and conquered that terrible pest, the woolly aphis. In this orchard there are three or four acres of old trees that at one time must have been covered with the aphis. Mr. Sounness recognised he must be up and doing if he intended to extend his orchard and go in for fruit-growing on a large scale. So he set to work, and sprayed them hot and sprayed them cold, and you might almost say sprayed them morning, noon, and night. The roots were uncovered; ash s, lime, &c., were put round them, and the aphis slowly disappeared. Castor oil is greatly believed in, and a pot and brush is always kept handy. The trees are constantly watched, and whenever any aphis appears the oil is promptly applied; but it has been got under so well that the pest has almost disappeared, and never once has it been allowed to get on to the young trees. Mr. Sounness is to be congratulated on the way he keeps his orchard, and it looks as if he will be again rewarded with an exceptionally big crop of fruit, especially Apples."

The Humming-bird Moth.

One of the most beautiful of our English insects, the Humming-Bird Moth (*Macroglossa stellatarum*), is to be found in our gardens during the latter part of April, and again in June and September, for there are three broods of them annually. It feeds upon the honey in the tubes of flowers, which it collects whilst hovering over them, "inimitably poising itself while on rapidly vibrating wings," and thrusting into their tubes its long flexible tongue. "It is delightful to contemplate the dexterity of this charming insect whilst it sails, all gaiety and grace, round the tall sprig of a Larkspur or other flower, probing to the very bottom every tube, neglecting none, and trying no one twice." It is not uncommon, and its times of feeding are on sunny days between the hours of ten and twelve in the morning, and those of two and four in the afternoon. It measures nearly 2in across its expanded fore wings; they are dusky brown, with several bands, waved, and of different degrees of blackness; there is also a blackish dot near their centre; the hind wings are bright orange, with a darker and redder line round the outer edge; the body is light brown, with black marks on the back; the abdomen, or belly, is hairy, with a tuft at the end, which it can open or shut at pleasure. The caterpillar, of a dark green colour, with a dusky line down the back, with a white and yellow stripe along each side, and yellow legs, is found in March, June, and August. It feeds chiefly on different kinds of Galium (Lady's Bedstraw) and Rubia (Dyer's Weed).

Wild Flowers of Old English Gardens.

(Concluded from page 32.)

When our worthy predecessors were selecting or seeking wild flowers for cultivation they considered other things besides form and colour. Some plants were brought into gardens because they were reputed to be sacred or lucky, and many had fragrance or flavour which gave them value. On the flower beds, therefore, plants appeared which served more than one purpose; they had a useful as well as an ornamental value. Then, again, the bees were often considered, and along the beds such species known or supposed to be their favourites claimed a place. Hence plants of the Labiate order, though not remarkable for showy flowers generally, were introduced on account of their aromatic or pungent qualities. Some of the Mints were old favourites, yet few of them could be called showy, even in clumps, and some have an odour too powerful to be pleasant. We scarcely expect to find any Mints growing in the present-day flower garden, excepting the variegated form of *M. rotundifolia*, which has been known a good while. It flowers latish, the bloom being in dense white spikes, and the leaves green and yellow, with a cobwebby down underneath. This makes a good edging on any soil.

The Mint, so familiar to us as used for flavouring, is a wild species of Britain, *M. viridis*, not uncommon along the banks of the Thames and Medway, also occurring elsewhere, there being several varieties. Spear, or Mackerel, Mint was its old designation, and several varieties were to be seen in gardens, some of these having a less agreeable scent than others. Sometimes it was allowed to grow as a shrub, becoming nearly 3ft high. Well might it be once grown as an ornamental plant, and old Gerard declares that it rejoices by its odour the heart of man. For centuries this Mint has been held sacred to the Virgin Mary; at an earlier period they believed the plant belonged to Pluto, monarch of the infernal regions. Those who could get the rather

rare Bergamot Mint (*M. citrata*) seem to have cultivated it in Georgian times for the sake of its powerful and peculiar fragrance, resembling one of the Citron tribe. This Mint is smooth, often reddish purple; its flowers, in blunt, rounded heads, open during the autumn.

Another species, common round London and elsewhere in most places, the Hairy, or Water, Mint (*M. aquatica*), was grown for amusement by botanists and gardeners. Some plants had a marshy, but aromatic smell, some would have the camphorated smell of Peppermint, and occasionally one had the fragrance of Frankincense. Many varieties were got, smooth as well as hairy. A very singular one had its flowers of bluish purple, not in heads, but in whorls on a spike. This species has been called by several the handsomest of our native Mints.

"If you set it, the cats will eat it;
If you sow it, the cats won't know it."

This quaint old saying concerning the Catmint (*Nepeta cataria*) shows that people did grow the plant formerly; but we query whether it made any difference raising it from seed, unless it had less aroma than if transplanted. Certainly cats are fond of the plant, scratching it and rolling upon it when they have the chance. Did our ancestors ever put this plant into their stews or salads? Possibly, which would furnish one reason for its cultivation; yet one of the old naturalists says that chewing Catmint made persons quarrelsome!

Of near kinship are the Germanders of the tribe in the genus *Teucrium*, some of which, chiefly Spanish, and rather inconspicuous, are amongst our garden plants. Before these exotics arrived, the Wood Germander (*T. scorodonia*) was occasionally cultivated. Its flowers are in one-sided spikes, greenish yet low: the dark green leaves contain a bitter, and were sometimes used as a substitute for Hops. The whole plant has an aromatic scent. Our probably native wall Germander (*T. Chamædrys*) is found upon old walls in a few places, and has been planted for a rock species; on the Continent it may be seen as an edging about some gardens. Its flowers are purplish, leaves glossy, the whole plant very bitter, hence it was recommended for fevers. (We note the name of "Germander" has been given also to a wild species of *Veronica* abundant along many hedgerows during May.)

Before the garden Sage and the Clary came from the Continent in the reign of Elizabeth, when other *Salvias* we now grow were unknown, people brought the wild Clary (*S. verbenacea*) into gardens, it grew not uncommonly near London. We have it about Kent still. Its flowers are rich blue and handsome, but they open upon the spike in succession. Doubtless another reason why this was cultivated, besides its appearance, was the medicinal value attributed to it. Clary, it seems, really means "clear eye," a decoction of the plant being supposed to cleanse or strengthen the eyes; and it had other uses. More beautiful still is the Meadow Clary (*S. pratensis*), having whorls or purplish flowers, which has been found near Cobham, in Kent. Perhaps a doubtful native in Switzerland, it is abundant in some meadows.

Fond of woods and moist places is the Bugle (*Ajuga reptans*), of creeping habit. It was not a despicable garden flower at one time, and produced several varieties. It blooms a good while, and looks well on a sloping bank. One variety has white flowers, others have very dark or variegated leaves, and sometimes they pass in gardens under fictitious names. Upon the mountains of Scotland and Wales occurs the Pyramidal Bugle (*A. pyramidalis*), a many-flowered, hairy species, without runners.

Our English Basil (*Clinopodium vulgare*) we first read of as a species associated with grief, and often planted upon graves; afterwards it seems to have found its way into gardens, possibly put there in memory of the dead. Elsewhere, in Italy and the East, for instance, some species of Basil was similarly used; also it was sometimes symbolic of hatred. It is a plant mildly aromatic, with soft, hairy leaves, and a few bright crimson flowers on wavy stems. Though generally distributed, it has not been common near London for many years. Then we have a Balm, which people cultivated because they supposed it had a likeness to the Oriental species of great repute. It grows chiefly in the south and west of England. It also was a pretty plant, the leaves being large, deep green, and the variegated flowers in pairs along the stem. The tea made from it, if not useful, was certainly harmless.

The Self-heal (*Prunella vulgaris*) is another of the tribe which was cultivated for its beautiful purple blossoms, as well as for its curative powers. Gerard puzzled some folks by his mention of what he calls "organie." This is his form of the Latin name for the wild Marjoram (*Origanum vulgare*), used in cooking as a substitute for the exotic species; also recommended for "scabs and scurviness when put into a bath." Like the wild Thyme, it is a great attraction to bees, but has not the trailing habit of that species, the crimson flowers being on a tall, much-branched stem. But the Thyme (*Thymus serpyllum*) was a greater favourite in gardens than the Marjoram, one variety having a Lemon scent; another, with larger flowers, was called the Mother of Thyme. An emblem of activity, Thyme was also a token of friendship.—J. R. S. C.

Notes from Ireland.

The brief visit of winter merged into very fine weather, and gardeners are now active. The bulbous plants are vigorously advancing, Crocuses and Snowdrops being in profusion. Of the former, I noticed some fine clumps of that peer amongst Crocuses—*Imperati*, a native of Italy, although from the native type many garden varieties are always discernible. Amongst the *Galanthuses*, that new introduction *Romeo* is at present flowering freely in the gardens attached to Trinity College. Its large, pendulous blooms are borne on stems about 18in in height, which renders it doubly useful, whether grown for effect amongst grass or for decorative purposes. From the former view, its height and size of bloom gives it a picturesque effect. It belongs to the *plicatus* section, from whence the most distinct advances have been made. In proximity to the many borders of early bulbous types, the heavily-dowered Cornelian Cherry



Grammatocarpus volubilis.

(*Cornus Mascula*), with its yellow inflorescence, suggestive of some *Acacia* blooms, is extremely handsome and useful.

Iris have come to stay. The old waif, *I. stylosa*, permeates our gardens, amid the shelter of kindly handglasses. *I. Danfordiae*, with its orange-yellow flowers, blooms at ease in a secluded corner where no inclement blasts can enter. *I. reticulata* carpets the ground with beauty. The newer one, with Violet perfume, emanating from the garden of Herr Max Leichtlin in Baden-Baden (now introduced by Messrs. Kelways, of Langport), is steadily coming into popularity, and justly so. There is probably no prettier-hued flower, excepting the unassuming Violet.

A mode of culture found effective is growing it in a sheltered corner, in a light soil of peat, sand, and leaf mould, and let it remain. The plants are never lifted, so that the bed is gradually increasing. The newer varieties of Hellebore have enabled gardeners to have a supply down to March. One finds them very handy when cut flowers are much in request. Their long stems and shapely perianth is strongly in their favour, though brilliant hues are yet absent. In the congenial warmth that pleasing Mexican shrub, *Centradenia rosea*, is radiant. The

extravagant wealth of flowers (in colour a rosy white), and its lanceolate foliage suggestive of Azaleas, are very graceful at Trinity College. The acme of culture is realised, and the plant is presented to the utmost advantage, whilst the new *Cineraria stellata* has become indispensable. The method of permitting it to grow to an unwieldy size may have its advantage for cut-flower supply, yet I prefer the dwarfer mode of culture, permitting a better display with an equal complement of bloom. However, on that point tastes differ.

Under the auspices of the Science and Art Department, Professor Pethybridge recently gave a lantern lecture on the mode of seed dispersal, and showed how plants have acquired the habit of seed sowing, thereby securing the most effective means for the retention of their species in cultivation, whether the means be by force, by wind appendages, or by shape. The illustrations were numerous, and were described in a simple, lucid style devoid of the usual technicalities associated with pure botanical themes. Subsequently several dried specimens were shown, to exhibit the actual size; and this gave the lecture a double advantage.—A. O'NEILL.

Bothies in Variety.

The *Journal of Horticulture* has ever been noted for the kindly interest it has taken in matters connected with gardeners of all descriptions. Young and old alike are drawn together through the medium of its pages by a bond of family affection, and although the interests of so numerous a family must at times be conflicting, the various sections learn to understand each other the better by a free exchange of ideas. On page 180 a pithy note draws attention to "The Bothy," a subject which may undoubtedly be discussed with advantage to all concerned. At the present time, when great efforts are being made to ensure the better houses of many classes, the inmates of our bothies should certainly claim a full share of attention, because such abodes are only established on the premises of employers of considerable wealth, and it is somewhat hypocritical on the part of such to make a great show of being anxious to see all classes well housed unless they begin by setting—so to speak—their own house in order, and giving to those around them as large a share of real comfort as they are undoubtedly entitled to. Since I began my gardening career I have noted with much satisfaction how great has been the improvement made in the accommodation for young gardeners in many places; but much still remains to be done, as some bothies are still a crying disgrace to a wealthy nation in the twentieth century, and might well be regarded as a relic of the dark ages.

A question which often agitates the minds of young men is, Do head gardeners as a rule do all in their power to make bothy life as comfortable as possible? After an extensive knowledge of gardens and gardeners, I hold the opinion that they do to a much greater extent than formerly. Of course, there are exceptions to every rule, and I doubt not that instances may be brought forward where head gardeners are utterly indifferent to the comfort of their young men; but if the matter is put on no higher ground, the majority of men now know well that the best way to get good work from aspiring young gardeners is to house them comfortably, and maintain a thorough interest in their welfare. I have had a most chequered career in regard to bothy life. In one instance the entrance to our dismal abode was through a rough shed, in which a stokehole was situated just outside the bothy door. This was certainly not at all times pleasant, especially when the wind was in the wrong direction, and caused the smoke from the stokehole fire to fill the bothy instead of ascending the chimney. It has been said, however, that all things have their compensating advantages. In this case the advantage lay in being near at hand to stoke the fire during very severe weather, when it was sometimes necessary to rise once or twice in the night to do so. But what of the inside of the bothy? Well, it had a bare, whitewashed wall, a floor of red uncovered bricks, and the one room served as a living and sleeping place for two, with two other young men similarly placed at the other end of the shed. The bed was a wonderful combination of usefulness and economy. In the daytime it was

strapped up, and shut in by folding doors, which the uninitiated might have taken for a useful wardrobe. Our larder was neither elaborate nor extensive; it consisted of a small safe placed under a tree in the open air, and in winter how hard with frost our eatables used to get! Still, in that place affairs might have been worse, as we had a kindly old soul who used to clean up daily, cook sometimes, and do odd jobs in the garden. Having four companions, I managed to spend a couple of pleasant years there, and many evening hours of study flew quickly in that forbidding abode.

At my next place I was more fortunate, as there were six in the bothy, a good mess room was provided, a reading room, good bedrooms, a bath room, and a suitable woman to do all that was necessary throughout the day. That is the type of home for young gardeners I should like to see established in every garden of fair size, and if the employer provided also a library of suitable books, so much the better. I have had the pleasure of inspecting several bothies, which may be described as "palatial" ones, but one can scarcely expect to find such become very plentiful; they are only looked for in the case of very rich and generous employers. Young men who are fortunate enough to gain entrance to them ought certainly to strain every nerve to take full advantage of their opportunities, as well as to appreciate their surroundings, and I certainly pity a young fellow who has the misfortune to go from a "high class bothy" to one of the "dens" which may yet be found in large gardens on estates, where one would expect to find the comforts of employes studied to some extent, considering the lavish expenditure made in connection with some showy social functions.—AN OLD GARDENER.

Grammatocarpus volubilis.

This Chilean annual (*Loasea*) is well adapted for covering trelliswork in the flower garden or in plant borders, and is unequalled in the form of a screen, having also the advantage of giving variety to those generally grown. Although perfectly hardy as an annual, it is advisable to raise the seedlings in a cold frame in pots at this time of the year, to be planted where they are desired to flower at the end of May. The figure on page 272 illustrates the form and size of the pretty yellow flowers. The leaves are downy. A synonym the plant was for long known under is *Scyphanthus elegans*.

The Timber Used.

In the United States 4,000,000ft of Pine timber is used every year for matches, or the equivalent of the product of 400 acres of good virgin forest. About 620,000,000 cross ties are now laid on American railroads and 90,000,000 new ties are required annually for renewals. The amount of timber used every year for ties alone is equivalent to 3,000,000,000ft of lumber. There are now standing nearly 7,500,000 telegraph poles. The average life of a telegraph pole is about ten years, so that nearly 750,000 new poles are required every year for renewals. These figures do not include telephone poles and the poles required on new railway lines. The total annual consumption of timber for ties and poles is equivalent to the amount of timber grown on 100,000 acres of good virgin forest. For making shoe pegs the amount of wood used in a single year is equal to the product of fully 3,500 acres of good second growth hardwood land. Lasts and boot trees require at least 500,000 cords more. Most newspaper and packing paper is made from wood. Although this industry has been developed only within the last forty years, yet the amount of wood consumed for paper during that time has been enormous. The total annual consumption of wood for paper pulp is equivalent to over 800,000,000 board feet of timber, for which it would be necessary, were the trees all growing together, to cut some 80,000 acres of prime woods. And so it would be possible to go through the list and give figures which in every case are astonishing. We are now using for the lumber and paper trade about 40,000,000,000ft of lumber a year, which is equivalent to the product of about 4,000,000 acres of good virgin forest—an area equal to Rhode Island and Connecticut combined—and yet this does not include the wood used for fuel, which is four and one-half times more.—("Yale Review.")

NOTES & NOTICES

Appointment.

Mr. T. W. Dollery, for the past five years foreman in the gardens, Whitburn Hall, Sunderland, has been appointed head gardener to Sir Arthur T. Lawson, Weetwood Grange, Leeds, and enters upon his new duties on April 1.

Ipswich Mutual Improvement Society.

The last meeting of the winter session of the above society was held on March 20, Mr. J. Barker occupying the chair, in the absence of the president, Mr. R. C. Notcutt. The programme again consisted of two short papers, one on "Herbaceous Calceolarias," by Mr. F. W. Salmon, the other on "Cinerarias," by Mr. G. Garnham. The committee, in obtaining these short papers upon popular subjects, are acting more particularly in the interests of the amateur members, who are strong supporters of the society. Both essayists dealt in a thoroughly exhaustive manner with their respective subjects, and at the close of the proceedings received the hearty thanks of the meeting. An animated discussion was taken part in by Messrs. Whittel, Chandler, Cotton, Cann, A. Creek, E. Creek, and others.—E. C.

The Origin of Flowers.

Mr. W. C. Wordsell, teacher of botany in University College, London, lectured on February 7 before the members of the Yorkshire Philosophical Society, on the "Origin of Flowers." The lecturer commenced his remarks by saying that he was a believer in the great principle of evolution, not only in the animal and vegetable kingdoms, but holding sway in everything in the universe; that out of the symbol arose the complex and out of the undifferentiated arose the differentiated. That meant that those organisms were gradually adapting themselves more and more perfectly to their environments in order to be able to fight the battle of life. By means of diagrams thrown on the sheet he explained the theory that flowers originated from cones, and then went on to explain the development, the origin of the stamens, sepals, petals, and nectary. The lecture was intensely interesting and instructive, and at the close Mr. Wordsell was accorded a hearty vote of thanks.

Wicker Shelters.

There are some beautiful shrubs that open their magnificent flowers so early in the spring, that their splendour is often defaced, if not utterly destroyed, by late spring frosts. To preserve these magnificent blossoms in all their beauty, by saving them from the cold frosty nights, too often prevalent at this season of the year, is very desirable. A very effectual, cheap, and not unsightly plan of accomplishing this desired end has been adopted. A sufficient number of stakes, of such a length as that when they are driven into the ground their tops may be at least 6in or a foot above the side branches, are placed 1ft from the outermost branches, and about 2ft from each other, so that the mats, when they are put upon them, and the wicker-work, to be described presently, may not touch any part of the shrub. Upon these stakes, and fastened to them with tarred rope, is then placed a circular frame of very open wicker or basket-work, made of green Willows. This is left on constantly, as long as there is any danger of frost. Every night, when there is the least appearance of this enemy, the wicker-work is covered with mats, which not only prevents the downward effects of frost, but the upward radiation of heat from the earth. An improvement might be made by having a covering of oiled canvas fitted to the size of each wicker tent, and fastened to the ground with loops and hooked pegs. These shelters are so simple, that any labourer, with some ingenuity and a little practice, may make them; and during the summer and winter season they should be put away in a secure dry place, and will last several years. The benefits of these shelters might be extended to the Gooseberries and Currants, and many other things.—R.

Victorian Apples.

With a view to calling attention to the excellence of Victorian fruit, the Minister of Agriculture for that State is arranging to forward a shipment, principally Apples and Pears, for exhibition in London and Liverpool. After exhibition the fruit will be sold by auction.

Oxygen and Plant Growth.

In the absence of oxygen, the higher plants are found by A. Nabokich to continue their growth, and they are still sensitive to irritations, but they do not form chlorophyll. It is believed that some seeds would germinate without oxygen, but the spores of fungi appear unable to do so.

Weather in the North.

Varied weather has marked the past week. Cold northerly winds have been frequent, the hills received fresh coverings of snow, and cold sleet showers have frequently fallen. On the 21st and 22nd slight frost occurred, and on the mornings of Monday and Tuesday 8deg and 7deg were registered. Bright days and dull cold ones have alternated.—B. D., S. Perthshire.

Venerable Elms Felled.

A great number of the old Elm trees in the famous Long Walk, facing Windsor Castle, reports the "Evening News," have just been felled by the Crown woodmen, the trees having at last succumbed to age and severe weather. The Elms were planted in 1680 by Charles II., and at one time numbered 1,652, the double avenue being 70yds across, and the trees were planted 30ft apart from each other. The Long Walk now presents a very uneven appearance.

Cold Storage in Country Houses.

A cold storage room would be a most convenient adjunct to the country house. The cost of adding it would be from £400 to £500. As well as retarding the flowers, this might also be utilised to preserve vegetables, food, butter, game, &c., and to supply the mansion with ice in summer. Nor need retardation be limited to plants and flowers, since Grapes, Strawberries, Figs, and other glass house fruit might similarly be subjected to the will of the gardener.—("Cold Storage.")

California.

What winter is a California's capital is well set forth in the following item from the "Sacramento Daily Bee": "Now that Camellias and Almond trees are in bloom, it is a particularly good time for tourists to visit Sacramento. To a newcomer from the East a walk through Capitol Park in these days must be a delight. Laurestina bushes as big as trees are in bloom, with hundreds of Camellias and other flowering plants, while golden Oranges hang from the Citrus trees, and the fresh green of the lawns on all sides helps to gladden the eye."

Peruvian Guano.

In Peru guano was employed to manure the soil when that portion of South America was first discovered; and its very name is evidence of the high estimation in which it was then held by even the ancient Peruvians, for guano, in their language, means the dung, or the manure, as if it was the especial or chief of all fertilisers. This, however, is not left to mere inference, for Garcilaso de la Vega, writing in 1609, says, "In the time of the Incas (early sovereigns of Peru) there was so much vigilance in guarding the sea-fowl, that during the rearing season no person was allowed to visit the islands which they frequented, under pain of death, in order that the birds might not be frightened and driven away from their nests. Each district had a portion of these islands allotted to it." There are many places where guano, or the dung of sea-fowls, may be collected, as at Ichaboe and other islands on the coast of Africa; but none are equal to that from Peru, for the obvious reason that here less rain falls than in any other place where guano is found. The dung, therefore, is at once dried in layers by the heat of the sun, and each layer is so effectual in keeping the ammonia from escaping from the layers beneath it, that when they are dug into they actually emit fumes so pungent as to pain the eyes of the workmen almost insupportably. The large amount of rain falling in our latitudes is the chief reason why there is no accumulation of guano on the islands about our northern coasts, which are so abundantly frequented by sea-fowl.



Mr. S. H. Edwards.

I should like to add my tribute of admiration to the painstaking care Mr. Edwards has so long shown in pursuit of the exacting work of "proof reader" to the *Journal*. I have often thought there must be some veritable wizard behind the scenes at Mitre Court Chambers—a master hand at unravelling the interwoven threads intended to convey thoughts in the "King's English." I am fully conscious of having given Mr. Edwards a few caligraphical puzzles, but his close scrutiny seems to have solved them all. I trust his task will be easier in the future, and that many years of honour lie yet before him.—H. D.

The late Mr. N. H. Pownall.

I was grieved to read on Thursday last of the death of the above old contributor to the *Journal of Horticulture*. Mr. Pownall's writings were always extremely interesting, and frequently charmingly unconventional and witty. He possessed a happy knack of imparting much useful information in a chatty, jocular style, and when engaged in controversy, he showed the great advantage in giving an opponent one of those "sly cutting thrusts" which leave no sting behind. Mr. Pownall was known to me as a writer long before I made his personal acquaintance, and when we met for the first time, at Shrewsbury Show, we had a long chat about "our *Journal*" and its long list of writers who have passed away. We were both great admirers of the writings of the late Donald Beaton, and Mr. Pownall was kind enough to send me an autograph of that famous gardener, whose writings figured so largely in old copies of the "*Cottage Gardener*," which were lent to me in my school days. All who knew Mr. Pownall will, I am sure, join with me in the expression of deep regret at the loss of a genuine gardener, refreshing writer, and genial, high minded Englishman.—H. D.

Loudon, and Birmingham Botanical Garden.

Apropos of the very interesting and graphic life history of that illustrious pioneer of horticultural literature, John Claudius Loudon, contained in the issue of the *Journal* on March 13. I failed to notice any allusion to the fact that the late Mr. Loudon designed and superintended the formation of the Botanical Gardens, Edgbaston, Birmingham, in 1831. Of these there is an elaborate description, with drawings by himself, in "*Loudon's Gardener's Magazine*," vol. viii., 1832. The principal features of the design are still evident, though very considerable deviations have from time to time been made since then, and more especially in regard to the glass structures. The design, however, remains a monument to the genius of that celebrated landscape gardener. Especially notable are the fine old trees planted there by him, and also by the first curator, the late Mr. David Cameron. A great feature in Loudon's practice as a landscape gardener was the care he took to preserve any existing trees, and there are several striking instances of his subtilty in this direction at Edgbaston. Among the more notable presumed to have been planted in Loudon's time are fine veterans of such as a tall specimen of the White Beam (*Pyrus Aria*), to see which an enthusiast travelled all the way from Manchester one day last spring, as he had never seen an old specimen of it before. Another notable specimen is that of the Weeping Double-flowering Cherry (*Cerasus pendula flore-pleno*) and which is a popular object of admiration when in bloom. A fine old Deodar, with many trunks, growing in close proximity to the huge rockery, with alpine flowers, must have been one of the first batch raised in England.

At one corner of the garden, adjacent to the highway, there is a very fine, tall, and vigorous Oak, and which, with its reticulated, symmetrical bole, can hardly fail to attract the attention of even the least observant visitor. There was also existing until recently an enormous specimen of *Wistaria sinensis*, extending along a north boundary wall. The chief feature, however, is perhaps the group of Magnolias, the finest probably existent in any British botanical garden. Especially noticeable is a tall tree of *M. acuminata*. Another somewhat rare old species, too, and which bears large and very fragrant flowers, is a fine bush of *M. auriculata*. In the Rhododendron garden, which is enclosed by a high Beech hedge, there still exist several fine old specimens of American Azaleas, and which are said to have been planted there upwards of sixty years ago. When in bloom their exquisite scent can be enjoyed from a long

distance around. At the present time they are embellished with a dense carpeting of Crocuses in variety. It is a recent introduction of Mr. Latham's, and produces altogether a very pretty effect. Space permitting, much more matter of a similar character to the foregoing could be related of this popular garden resort, and which is so well managed by its veteran curator.—W. G.

Irish Ivy.

I beg to suggest, for the readers of your admirable paper, my mode of pruning this evergreen, which I should not do, but that I see numerous instances where that indispensable operation is by no means understood; and, the more so, from a recent conversation with a bigot of the common school, of some twenty years' practice. On asking him how he pruned his Ivy, he replied, "I always clip it"; and although a well-trained screen was at hand, upon which I exemplified, he walked doggedly away, with too obvious an intention of pursuing his own plan, than which nothing can be worse. For, if clipped sufficiently close, it must, from the time of its being done, denude the wall or fence of all its beautiful green leaves until fresh ones grow; and if so clipped in the autumn, leave the whole in an unsightly bare state throughout the winter; whereas, by my plan, no such result is the consequence, and all protruding snags are prevented. In November I proceed thus: With my left hand I take firm hold of every summer shoot, however small, or however long and dangling, and boldly drawing it out to its utmost stretch, until it comes to the shoot from which it started. I then, with my pruning-knife in my right hand, and with a cut from me, take it off close to the stem from which it started; and, by carefully going over the whole with this process, I have the satisfaction of seeing my Ivy looking beautifully green throughout the winter, from the summer leaves being undisturbed. A friend's parsonage (one of your patrons) is covered with Irish Ivy, and all the year round looks green and snug, from being treated this way, without any straggling branches or obtrusive masses protruding from the walls.—Q.

Gardeners and the Coronation.

A few months hence and the British Empire will be giving vent to its exuberance of spirits on the advent of the greatest and happiest event that a nation can experience—the coronation of its Sovereigns. Truly the event is one which enjoins a pause from the everyday course of things, and a pause, too, which will competently mark it in the annals of individual as well as national history. Therefore this is a time specially suitable for all loyal-hearted subjects to give more than ordinary effect to their liberality in every worthy object. The history of the Victorian Era to every British subject must be viewed with feelings of the most intense gratitude, and, like the farmer who has reaped a good harvest from the influence of a good summer, feels that he owes someone a thank-offering. The British Empire owes much to the unique progress of the Victorian reign, and among the many arts and professions which have immensely improved during this period is the by no means unimportant art of gardening. How different is the condition of gardening now from what it was at the time of Queen Victoria's accession!

Much of this desirable progress is due to the peaceful nature of the Victorian reign, but much of it also is due to the late Queen's high appreciation of the art of gardening. There is ample indications that His Majesty the King and his Consort the Queen are not less imbued with high conceptions of the beautiful as exemplified in the art of gardening. The profession, on that account, owes a double debt to the Throne for the past and the future prosperity of the art. How to celebrate and memorialise this in a suitable and worthy manner I think ought to engage the attention of every member of the profession for the few months which intervene the event in question. One very appropriate way to commemorate the occasion has suggested itself very forcibly to my mind, and that is that an effort might be made to collect funds, the object of which would be to cover the expenses of medals to be awarded to gardeners for essays on matters bearing on horticulture. A very small contribution from every gardener throughout the British Isles would suffice to make the object a success. I think too little attention has been given to this phase of horticulture. Exhibitions of the literary are as essential as are those of the practical side of the art, and are pre-eminently more likely to be conducive of more universal fruits. Moreover, the exigencies of the times demand it, for we seem to be only in the incipient stages of our literary history. Then who would not exert himself to the uttermost to become the possessor of a "Coronation" medal? I sincerely hope something of this nature will be attempted to mark an important stage in the history of the profession; and I invoke the attention of our young men to the matter, for they are the future custodians of the art that is extremely unlikely to grow less lustrous as civilisation and years grow apace.—HORTULANUS, N.B.

About Vines.

Cut-backs of last year's raising should receive their final shift, so as to allow time for them to make and perfect a good growth early. The pots (12in in diameter) must be clean, efficiently drained, and have a layer of the roughest of the compost on the drainage. Avoid bones, as they favour eelworm and grubs. Pot firmly in good fibry loam, with a tenth of old mortar rubbish, a quart each of soot, and Thomas' phosphate, and half a gallon of wood ashes to each barrowful of loam. Bottom heat is not necessary, but if they are plunged it should not exceed 80deg to 85deg, and they must remain in that so long that roots enter the plunging material. Keep the house rather close, and if the weather be bright shade for a few days. Train the canes about 1ft distance from the glass, and give all the light practicable to insure solidification of the growths. Pinch the laterals at the first joint, and subsequent growths treat similarly, stopping the cane at about 8ft, and stop the laterals from the uppermost joints a little less closely, so as to prevent the principal buds being started.

Planting Young Vines.

This should be done when they are starting into growth, and not more advanced than an inch or so. Where provision has been made for inside and outside borders the Vines should be planted in the former, which will be sufficient for several years, as a width of 4ft is ample the first year, and about 2ft width can be added annually. Some growers prefer to do this every second or third year, adding to the border about 4ft to 6ft width. The Vines, if cut-backs of last year, may be shaken out and placed in position, either before or after they have grown, to the extent of an inch or two, the roots being disentangled and spread out evenly in the border, covering them about 3in deep, and watering moderately, to settle the soil about them. Vines of the present year's raising will not need to be planted for some time yet. They are preferably raised in squares of turf, and may be planted when the roots are protruding through the sides, the breaking of the rootlets extending beyond favouring a fibrous root formation, or if in pots they should be turned out before they become root-bound. They will require to have a temperature at planting suitable to Vines in growth, that is 60deg to 65deg at night and 70deg to 75 deg by day, with an advance of 10deg to 15deg from sun heat. Vines of last year, however, should be allowed to start unaided, syringing them two or three times a day, according to the weather, and ventilating freely at 65deg, with a little from 50deg.

Young Vines.

Those planted last year and cut back to the bottom of the rafters or trellis at the winter pruning, must be encouraged by gentle fire heat, to allow time for their making and completing a good growth. The laterals should have the points pinched out at the first leaf to a height of 6ft of the canes, which will cause the buds in the axils of the principal leaves to form fruit buds, and become plump for next season's fruiting, but above that height they may be allowed to grow. It is a better plan, however, to stop the cane at about 7ft 6in, train a lateral for a continuation, stop this at 3ft, and so on until the top of the house is reached, stopping all laterals to one joint and sub-laterals to one leaf as made. This secures thoroughly solidified growth, and a stout cane from the base upwards.—G. A.

Hardy Spring Flowers.

Crocuses.

Of the sixty species of *Crocus*, many of the winter kinds are pretty but delicate, and cannot be expected to make much show, but *C. Imperati* should be grown by the thousand, as it is cheap, and increases fast, and likes all soils, though it prefers sun. It begins about New Year's Day, and flowers all through January and February, the latest varieties being the best. It is unique in colour, rich purple inside contrasted with pale striped fawn colour outside. *C. Sieberi* comes equally early, and makes a variety, with its globular dark purple or lilac coloured flowers, three or four opening at a time on the same bulb. Rather later comes the elegant pale purple *C. Tommasinianus*, also very prolific, and showing a dense array of flowers early in February. I recommend these especially, without disparaging any later

kinds. As an obiter dictum I advise that all Crocuses be planted deep. I plant large kinds a foot deep, to be out of the reach of mice, and to allow summer dwarf plants to flower above them. *Hyacinthus azureus* this year pushed its bright blue little cones through the soil the second week in January; neither this nor the *Cyclamen* are damaged in the least by cold or wet. The *Hyacinth* ripens seed plentifully in June. I generally cover the seed when shed or scattered with a little soil, and take care that the seedlings are not disturbed; when the colony has increased to fifty, it makes a good show in the border. The little gem likes a place to itself, and is worthy of a choice spot under a south wall. But the speciality of the first three months of the year in edge garden is *Anemone blanda*. This showed through the soil this year at the beginning of January, and is seldom much later. For a time it was precious, but I have now found that if left alone it will grow and increase anywhere, but digging amongst it at any time of the year is fatal. Seed ripens early in May, and will not come up if dried and stored. My best piece is a narrow border 40 yards long, beneath a south wall. Those who have only seen a small cluster of this lovely little flower can hardly realise the effect of ten thousand flowers at once in a mid-day sun, making a spangling galaxy of Violet coloured, and blue and white stars. Nearly all these early things transplant best when in flower, or soon after. The Snowdrops and Crocuses and Aconites, especially if insulated into new places in small bunches dug up with soil, make a large stock very rapidly.

* * *

Iris and Helleborus.

Two larger plants are not quite so independent of weather. They are *Iris stylosa* and *Helleborus orientalis* hybrids. The *Iris* should have the sunniest and southernmost and most sheltered place in the garden. It flowered beautifully this winter from Christmas onwards, but is one of the few hardy plants for which bellglasses are allowable against severe frosts and snow. The *Hellebores*, which are early this year, do not like snow or east wind. They should be treated to the shelter of evergreens and walls, and do well beneath Conifers and Yew trees. I have above two hundred now flowering in all kinds of situations, and learn something new every year about their tastes. Nearly all I have are home-grown seedlings. The summary of my advice is, transplant and divide often; encourage and do not neglect seed; and grow these welcome gifts of the new year in much larger crowds than they are usually seen.—C. WOLLEY DOD, Edge Hall, Malpas, Cheshire, February 28.

Eccentricities in Plant Life.

At the meeting of the Devon and Exeter Gardeners' Association on March 2, Mr. H. Baker, assistant at Messrs. Veitch's Nurseries, gave a lecture on "Eccentricities in Plant Life," in which he dwelt on the morphological peculiarities in plants. Mimicry is perhaps more frequent in the seed than in any other part of the vegetable organism, but it occurs in other organs, and even the entire plant may assume a deceptive appearance. The Stinging Nettle is provided with stinging hairs which secrete an acid fluid, and these probably also serve for protection. The acid juice of the *Euphorbia*, abundant in the Riviera, protects it against a host of enemies. Certain types of plants are very characteristic of hot, dry, sandy or rocky localities where rain seldom falls, and water must be stored up against the dry season. Under these circumstances stems or leaves become thick and fleshy, and provision is made in the anatomical structure to resist undue loss of water by transpiration. They have a special protective epidermis of large bladdery cells, whose walls contain silica. The stomata situated in the epidermis permit evaporation when water is abundant, and arrest it when the supply fails. The spinescent type of plants, of which the *Opuntia* is a good example, is a rather curious genus of succulent plants, which have thick, massive, angular stems, the leaves being wanting, but are represented by spines. The stem has the functions of leaves, and the stomata, or breathing pores, are sunk to protect them from excessive heat. When plants are grown in massive tufts, or are crowded socially so that the blades of the leaves are compelled to stand erect, they take very much the same form. A curious feature in plant life is the responding, in a peculiar manner, to external changes. At night many leaves place themselves in different positions from those which they assume during the day. Many flowers and some inflorescences have different day and night positions. In most cases the flower or inflorescence (usually capitulum) is open at daytime but closed at night, but each flower has its own separate time. The rise and fall of the temperature, and the removal of light acts as a stimulus. The peculiarity of some *Mimosa* plants is the shrinking of the branches and folding up of leaves at the slightest touch or disturbance. The sensitive leaf of the *Cobaea scandens*

acts as a tendril by which means the plant climbs. Climbing plants often become prostrate if they find no external object by which they can climb. Turning plants in most cases twine in a definite direction. Ivy really acts as an efficient protection against the weather, adding both to the dryness and warmth of

devouring insects. All carnivorous plants grow in poor swampy soil which is usually deficient in nitrates, &c. By the capture and digestion of insects they obtain supplies of nitrogenous food, and thus can maintain themselves in localities which are unsuited for the development of most flowering plants. All



Primula cortusoides amœna grandiflora lilacina. (See page 278.)

the house. Mistletoe can be artificially propagated by slitting the bark of a tree and inserting one of the seeds in the aperture, binding it over with something to protect the seed from birds. Another great and very interesting and curious collection of plants is the insectivorous plants, drawing their name from their

carnivorous plants have great assimilating leaves. The propagation of plants by seed was largely supplemented by methods of propagation carried on by the vegetative system of flowering plants. Propagative leaves can both normally and abnormally produce roots and bulbs, and so give rise to independent beings.



Fruiting Period of Pine Apples.

The fruit of Pine Apples do not commence to form much before the month of February in Florida, and it takes several months for them to mature. They are grown in the State mentioned very extensively.

The Kumquat.

Visitors to Florida or similar far-southern points should secure a plant or two of the Japanese Kumquat for their conservatories. This plant is a dwarf member of the Citrus family, and abundantly produces small "Oranges," in shape and size much resembling silkworm cocoons, but a trifle larger and more nearly round. The fruit, though slightly acid when first bit into, has a rather pleasant taste. It is excellent for preserving.—("Meehans' Monthly.")

Primula cortusoides variety.

This hardy Siberian species has many fine forms, but none, surely, that surpass the variety we figure on page 277, named *P. cortusoides amœna grandiflora lilacina*. Such a name almost saves any further description! It is a quick growing plant, proving useful either in the border or for cut flower purposes. A moist position out of doors is suitable for it, and the soil should consist of loam and peat, with a liberal supply of gritty sand. It is also grown to great advantage for greenhouse decoration, from seeds sown now.

Melons in Frames.

The plants sown early in February will be fit to plant out, the bed having been made for them and the soil warmed, with a sweet atmosphere secured. Where a successional of fruit has to be maintained, and the means are limited to frames, a sowing should be made every fortnight or three weeks up to May, making fresh beds at similar intervals to receive the plants, so as to maintain an unbroken supply of fruit. Maintain a night temperature of 65deg and 70deg to 75deg by day, this being effected by timely attention to the linings and coverings over the lights at night, admitting air from 75deg, but without lowering the temperature or admitting cold, cutting air, and keep through the day at 80deg to 85deg, or even 90deg, securing this well on towards night by closing early in the afternoon, having due regard to the safety of the foliage.—G. A.

Cucumbers in Houses.

Increased light and sun heat necessitates a correspondingly greater supply of atmospheric moisture, therefore damp the house in the morning and evening, syringing the plants lightly on the afternoon of bright days, or, if dull, damp the floors and wall instead of syringing the plants. A night temperature of 65deg is sufficient, allowing an advance of 5deg when the external air is mild, 60deg being the minimum when the weather is cold. Get the heat up early after daylight, so as to have a temperature of 70deg to 75deg between 8 a.m. and 9 a.m., ventilating a little at the latter figure with the prospect of an advance from sun heat, keeping the heat from this at 80deg to 90deg, and close early so as to secure the latter, or even more, from that source. Liquid manure may be given once or twice a week, and the evaporation troughs kept charged with it. Liquid manure, however, is best given alternately with top-dressings of chemical manures, Cucumbers requiring phosphoric acid, potash, and nitrogen in large amounts, hence five parts superphosphate, three parts sulphate of potash, and two parts finely crushed nitrate of soda mixed, and applied at the rate of 2oz to 4oz per square yard, give good results in growth, fruit, and immunity from animal micro-organisms. Dressings of this nature sprinkled on or mixed with compost as top-dressings about every three weeks keep the plants in good health, other conditions being favourable. Thin the fruits well, especially on plants just coming into bearing, stopping the shoots one joint beyond the fruit, removing superfluous growths and bad leaves as they appear, as well as tendrils and staminate blossoms.—G. A.

Fruits and Flowers of Jamaica.

Those who have visited Jamaica are loud in praise of its floral beauty and the abundance of its tropical fruit and vegetation. "Governed by the English," as an American contemporary puts it, "it offers every opportunity to the visitor to enjoy its natural beauties and inspect its industries."

A Screen and Shelter Belt.

On page 279 there is furnished an illustration of how a dividing screen (to be also a shelter belt) can be formed in close proximity to the mansion and to add a feature of ornamental value with its more essential qualities. The scene speaks for itself; yet, simple as these ideas are when thus seen, how often one finds considerable thought required to meet the difficulties that arise in garden designing or in altering and improving gardens! Hollies, Thuias, *Cupressus nootkatensis*, *Pinus austriaca*, Birches, and similar trees and shrubs, together with suitable plants, could be used for such a belt.

Raising Young Fig Trees.

This is a good time to propagate young plants from cuttings. Select shoots from 5in to 6in in length, with a heel of last year's wood attached, and remove all the eyes on the part to be inserted in the soil. They root freely in a bottom heat of 75deg to 80deg.—G. R.

Forced Pot Figs.

The Figs are now swelling rapidly, hence the trees require to be well supplied with water and nourishment. Liquid manure from tanks may be given whenever water is required, as Figs are gross feeders; but it must not be applied strong nor cold, but warmed to the same temperature as the mean of the house. If the pots are well drained it is scarcely possible to afford water too copiously when the trees are in full growth. An occasional sprinkling of some approved fertiliser on the pots will be beneficial. The night temperature may be continued at 60deg to 65deg, with 10deg more by day, and from sun heat advance to 80deg or 85deg, affording adequate ventilation when the weather is favourable. Maintain a genial atmosphere by syringing the trees twice a day when the weather is bright, but avoid keeping the foliage constantly wet, as would be the case by syringing vigorously in dull weather. Damp the paths and walls, and keep the evaporation troughs charged with liquid manure or sprinkle the paths with it occasionally, and to check red spider paint the hot-water pipes with sulphur. Avoid crowding, stopping or tying the shoots as growth advances, as the fruit to have flavour and colour must, when ripening, have full exposure to light, combined with a circulation of warm dry air.—A.

Jottings on Pines.

Suckers started early in March will now require attention. The pots must be full of roots; but before the plants are root-bound shift them into 10in, 11in, or 12in pots, watering them a day or two previously, so as to have the soil moderately moist when they are potted. Take advantage of the removal of the plants to examine the beds, replenishing them if need be with fresh tan, mixing it with the old to a depth that will afford the temperature required, namely, 95deg at the base of the pots, until the roots reach the sides, when 90deg is more suitable. Keep the air about such plants well charged with moisture during the time the house is closed, employing no more fire heat than is absolutely necessary to maintain a temperature of 70deg to 75deg on mild nights. Ventilate slightly at 80deg, liberally at 90deg, closing with sun heat at 85deg, at which time syringe the plants. Plants started into fruit early in the year are fast approaching the flowering period. They will be benefited by an occasional sprinkling at the time the house is closed, but when in flower they must not be so treated. The foliage being as yet tender, it will be desirable in the case of houses with large panes of glass to afford a slight shading for an hour or two in the hottest part of the day for a few weeks until the foliage becomes inured to the sun's influence. When the flowering is over the fruit will advance rapidly if the roots are in good condition, and plentiful supplies of weak liquid manure will be requisite. Attend to ventilation early in the morning, commencing when the temperature is at 80deg, and closing at 85deg with sun heat. Keep the atmosphere moist when the house is closed, and the bottom heat steady at 80deg to 90deg; night temperature 70deg, by day 75deg from fire heat. As the suckers appear remove all but one to each plant.—PRACTICE.

Apples in Midlothian.

The amateur or professional gardener who has made a wise selection of the many fine varieties of Apples, and given due care to their cultivation, may have in his fruit-room a continuous display of fruits which, besides proving useful for the usual necessary culinary or dessert purposes, will furnish an un-failing source of interest to both himself and friends who may visit him. These were the thoughts which occurred to me after my recent visit to the fruit-room of a Midlothian garden, where a supply of fruit is maintained throughout the twelve months. Probably no collection in Scotland is more complete than the one of which I write, and the fruit-room amply demonstrates this fact. Of Apples alone there are over 500 varieties grown—some as wall trees, others in bush and pyramid form, and a great many as tall orchard standards. On the table of the fruit-room, where a collection of all the varieties are kept for comparison, and to assist in the naming of fruits sent, were noted many which, although well out of season, were yet in

the varieties supplied for dessert from August of the present year given in order of use:—White and Red Astrachan, Irish Peach, Sugar-loaf Pippin, Lady Sudeley, Worcester Pearmain, Golden Pippin, Kerry Pippin, Early Nonpareil, Gravenstein, Cox's Pomona, King of Pippins, Cambusnethan Pippin, Blenheim Orange, Adams' Pearmain, Cox's Orange Pippin, and Margil. This latter variety will probably be succeeded by Southampton Pippin—an Apple not generally well known, yet a most valuable one.

For a late succession were large quantities of such varieties as Sturmer Pippin, Fearn's Pippin, Court Pendu Plât, Herefordshire Pearmain, Dutch Mignonne, and Bishop's Kernel. Bishop's Kernel, or Pippin, is synonymous with Bellflower Yellow, said to have originated in Burlington, New Jersey, and is a winter Apple worthy of extensive cultivation. It is oblong, tapering to the eye, irregular in form; skin smooth, pale lemon-yellow; flesh tender, juicy, crisp, with a fine sprightly sub-acid flavour when quite ripe.

Kitchen Apples were represented in numberless varieties, to enumerate which I will not attempt, but simply touch on several of outstanding merit or interest. Golden Spire, although now



Garden Design: a Screen and Shelter Belt. (See page 278.)

a fair state of preservation, thus showing the advantages of a well-constructed fruit-room.

Notable amongst the dessert Apples were the following:—Williams' Favourite, a large, highly-coloured fruit, with an agreeable flavour. It is in season from July to September, and a good exhibition sort. Golden Pippin, Duchess of Oldenburg, Paradise Pippin, Kerry Pippin, Irish Peach, Sugar-loaf Pippin, and others. Allington Pippin, an Apple of recent introduction, has not, so far, borne out its high commendation here, although the part of the orchard in which it is planted may have somewhat to do with its failure. James Grieve, an Apple raised some years ago by the local nurseryman after which it is named, is highly reliable, being of fine flavour, and keeping well for an early variety. Adams' Pearmain, Cambusnethan Pippin, Beauty of Bath, Duchess's Favourite, and King of the Pippins, are also much prized for dessert, and do well.

Cambusnethan Pippin is an Apple much esteemed in the Clyde valley, where it is largely grown. Wealthy, an Apple of American origin, is also in evidence, being a good bearer, and fit for either table or kitchen. At the time of my visit the variety served for dessert was Margil, this having succeeded Cox's Orange Pippin; and, although a small Apple, it is nevertheless a very valuable one, and its flavour is delicious.

The following notes taken from the fruit-room record, shows

past its season, was still shown in splendid condition. The quality of this Apple is good, and it is a heavy cropper. Among recent introductions there can be no doubt that Newton Wonder is one of the very best. The fruit is large, flesh firm and juicy, with a flavour not at all unpleasant, and it possesses the unique quality of being in season from October to April or May. The remarkable quantity of this Apple was ample proof of its prolific nature, and an extensive planting of it is about to be made. Lufness Seedling is a local variety, much the same as Golden Spire.

Galloway Pippin, or Croft-en-righ, Flanders Pippin, Dr. Harvey, Yorkshire Greening, Calville Rouge, The Queen, &c., were noted on the table; while in large quantities were such well-known sorts as Tower of Glamis, Bismarck, Mère de Ménage, Dumelow's Seedling, Lane's Prince Albert, Annie Elizabeth, Twenty Ounce, Bramley's Seedling, Alfriston, and Chelmsford Wonder. Brabant Bellefleur, Hanwell Souring, and London Pippin are good keeping sorts, hardy, and free-bearing. Minchal Crab, from an orchard standard, and in shape closely resembling a moderately large Warner's King; Salton, a medium-sized green Apple; and Forester, an Apple of splendid appearance and keeping quality, were also noted. A collection of ornamental Crab Apples, representing some twelve varieties, was also an interesting feature of this full and varied collection.—SCOTIA.

Semi-Jubilee Year of the Scottish Horticultural Association.



THE members of this popular, energetic, and highly successful Association met on the evening of Friday last, the 21st inst., to celebrate the semi-jubilee of the Association in Ferguson and Forrester's Rooms, Princes Street, when the large number of 120 dined in honour of the occasion. In reporting the highly successful function it may not be out of place to recount some of the salient features in the Association's work and

History.

The Association was formed in March, 1877, at the suggestion of a few ardent horticulturists—of whom Mr. Robertson Munro, then of Abercorn Nurseries, was the moving spirit—in order to supply a much-felt want and desire for an institution to foster and cultivate the education of gardeners from the scientific and literary points of view. For a very long time the Royal Caledonian Society, in Edinburgh, had ceased to carry on any educative work, which was an important feature of their original charter to fulfil, contenting themselves with the holding of flower shows. The meeting at which the Association was inaugurated was presided over by the late Baillie Methven, and over a hundred members were enrolled at the first meeting. The late Mr. Malcolm Dunn was the first president, and occupied that position for four years, doing much in his painstaking and characteristic energetic way to establish it on a firm and lasting basis. Among those who have occupied the president's chair since then may be mentioned the late John Downie, the late Wm. Thomson (of Clovenfords Vineyards), Mr. Robertson Munro, Professor Bayley Balfour (the gifted Professor of Botany in Edinburgh University, and Regius Keeper of the Royal Botanic Gardens), the late Mr. Wm. Welsh, Judge Mackenzie, Mr. R. W. E. Murray (the enthusiastic amateur 'Mum grower), Mr. Chas. Cowan (the Daffodil enthusiast), Mr. M. Todd, &c. The leading feature of the Association's work has been the reading and discussion of papers on horticultural and cognate subjects, and this has been carried on with great success during the quarter century that has since elapsed, no month having passed without a meeting. The meetings have been invariably well attended. The papers read have embraced many varied subjects, and have been written by men of the greatest renown over the three kingdoms. The discussions have always been spirited and harmonious, and it may truly be said that many gifted and eloquent speakers have evolved from them. The membership has always kept increasing, till at the present time there are no fewer than 1,100 names on the roll.

For the first few years no other work than that of a literary and educational character was undertaken; but it gradually was brought home to the minds of the leading members that the cultivation and exhibition of the Chrysanthemum and other winter flowers was being neglected in Scotland, and here again they found the Royal Caledonian not equal to the occasion. This Society had held an Apple Congress in conjunction with a Chrysanthemum Show, which, though pomologically a great success, was a financial failure, and the Council would not venture further in the way of winter flower shows. The Association therefore felt it incumbent on them to try an exhibition on a small scale to further and improve Chrysanthemum culture in Scotland, a venture the wisdom of which has been most amply justified by the magnificent results since attained. The first three exhibitions were held in small halls in the city, and were encouragingly successful, but complete success was only attained when the shows were moved to that great exhibition hall, the Waverley Market. The first of these was held in 1889, to celebrate the centenary of the introduction of the Chrysanthemum to this country. This was probably the most successful Chrysanthemum Exhibition ever held in this country from the financial aspect, and resulted in credit balance of over £400, after very liberal prizes and special awards had been made. These exhibitions have been carried on annually ever since, with invariable success, and now rank only second in the three kingdoms to the exhibitions of the National Chrysanthemum Society. The Association's work has, therefore, been broadened, and its importance consequently increased.

The monetary successes of the Chrysanthemum Shows have also placed the Association in a most enviable financial position, a reserve fund of nearly £900 having been accumulated against

some possible rainy day. Its funds, too have been hoarded in no niggardly spirit, as the prizes offered are of the most liberal character, and, as most horticulturists know, its hospitality and generosity are dispensed on a liberal scale. During the twelve years that the Chrysanthemum Shows have been held in the Waverley Market large contributions have been made to charitable objects, the Royal Infirmary of Edinburgh and the Gardeners' Orphan Fund receiving annual donations, and in 1877, on the occasion of the Diamond Jubilee of our late lamented Queen, no less a sum than £250 was distributed to charitable purposes. An Association whose members are so large-hearted as this deserves to succeed, and has done so far beyond the most sanguine expectations of its original promoters, and it is not to be wondered at that on the completion of twenty-five years' magnificent work the members should hold a semi-jubilee celebration to make glad over their successful career, and to stimulate each other to still greater exertions.

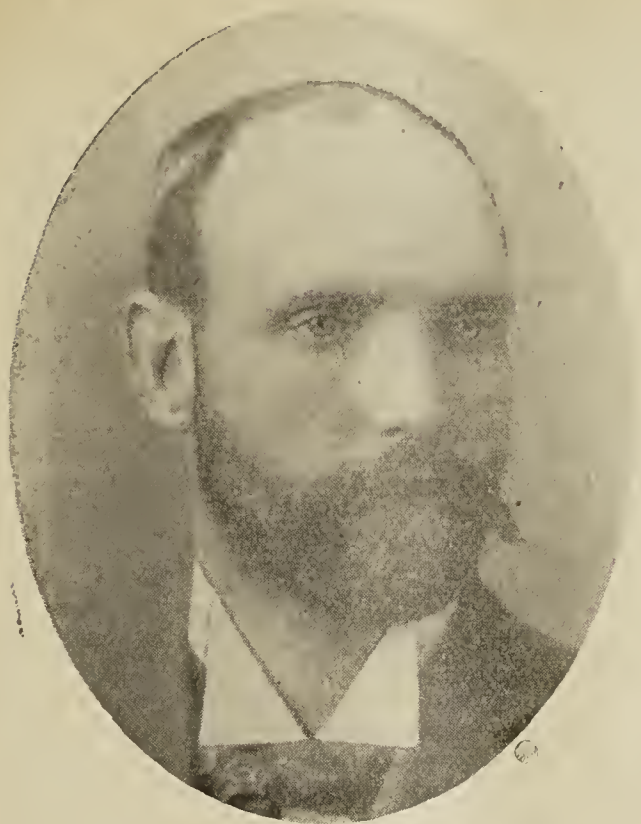
This is not, however, the first social celebration the Association has held, as four years ago, under the presidency of Mr. Todd, a most successful meeting was held in honour of the majority of the Association. The present celebration, as stated above, was held in "F. and F.'s" Rooms, in Princes Street, and Mr. Comfort, the present genial and accomplished president, very ably presided over a company of 120 members and a few invited guests.

The Company

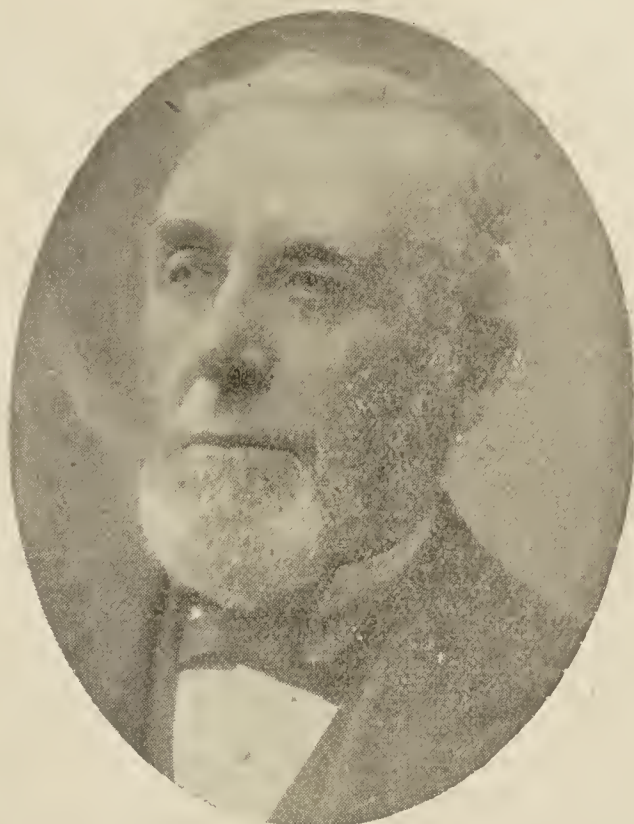
Embraced all the leading members of the Association with a few notable guests. It is a fortunate coincidence that on such an occasion it should so happen that the president for the time being should be a practical, hard-working gardener.

Mr. Comfort is a gentleman of whom all horticulturists may be proud, possessing a thoroughly practical, as well as theoretic, knowledge of gardening, coupled with a literary culture and oratorical ability which many public, highly educated men, would envy. The Association was honoured on this occasion by the company of Mr. Richard Dean, representing the National Chrysanthemum Society, who occupied a seat to the chairman's left, the seat at his right being allotted to Bailie Brown, the senior magistrate of the city. Councillor MacMichael, the convener of the Public Parks Committee, was also present, as were also Mr. Thomson, secretary to the Royal Caledonian; Mr. Galloway, secretary to the Royal Arboricultural; Mr. McDonald, secretary to the Highland and Agricultural Society; Mr. Whitton, superintendent of the Glasgow Parks, also honoured the meeting with his portly, good-natured presence; ex-Bailie McDonald, president of Dundee Horticultural Society, was also there; and among the general company we noted Mr. McKenzie, the late treasurer, who has always been a tower of strength to the Association, and who carries his years as if age would gain no victory over him; Mr. Whytock, the worthy successor to Mr. Dunn, at Dalkeith Palace; Mr. McHattie, of the City Gardens, whose genial countenance is always like a ray of sunlight; Mr. R. Laird, the late energetic and efficient secretary, and his successor, Mr. Loney; Mr. A. McKinnon, from Scone Palace, near the fair city of Perth, had ventured south for the occasion; and Mr. Cumming, gardener, Grantully Castle, had come all the way from the shadow of the Grampians; "Sandy" Milne, of Dickson and Sons, the genial ex-Moderator of the Holyrood Constables, though we have seen "Sandy" more Milnesque than on this occasion; ex-President R. W. E. Murray, with his kindly urbanity; Mr. A. Mackinnon, the energetic treasurer; Mr. Kidd, Carberry Tower Gardens, of Malmaison fame; Mr. Cuthbertson, of Dobbie and Co.'s, Rothesay, with his kindly, smiling face, there, as he said, to take charge of Mr. Dean; Mr. Geo. Wood, who had left his Orchids for the occasion; ex-President M. Todd, and many others which space does not allow to mention.

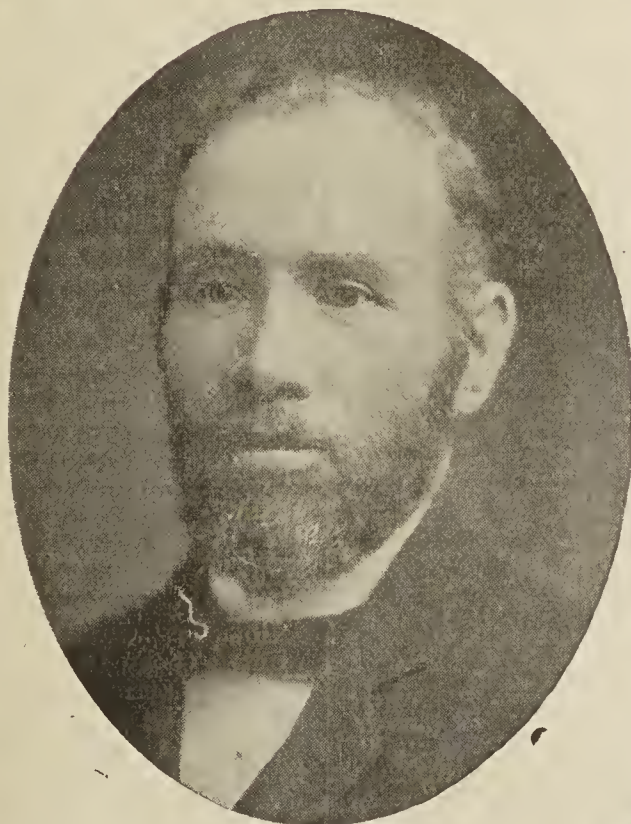
Among absentees who should have been there were Mr. D. P. Laird, whose rubicund, ever-joyous presence was much missed—"Davie" should not have allowed any engagement to intervene; Mr. D. W. Thomson, who was unwell; Mr. David Mitchell—The Major—whose weight of years prevents his being out in the evenings; and perhaps most notable of absentees was Mr. James Grieve, who seems for the time being to have retired to the Cave of Adullam—James, this is grievous, and you must think better of it. Since the majority festival, four years ago, several who then occupied prominent positions were also absent—gone



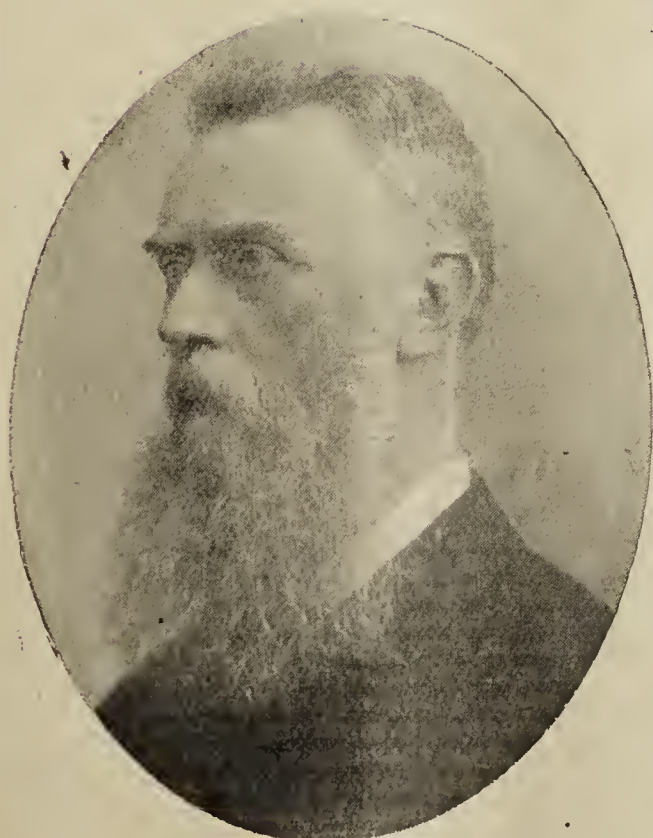
Mr. William Mackinnon.
(Treasurer.)



Mr. Alexander Mackenzie.
(Ex-Treasurer.)



Mr. Charles Comfort.
(President.)



Mr. Peter Loney.
(Hon. Secretary.)



Mr. Robert Laird.
(Ex-Hon. Secretary.)

home—but let us hope present, unseen but felt, "From yon blue heavens above us bent," looking down in sympathy with their brethren who are still in "the body pent." They were a source of inspiration when living, and, though passed from mortal ken, a source of inspiration yet. Notable among these were Mr. Malcolm Dunn, who, we fear, has left no successor as an indefatigable worker for public horticulture; also the accomplished and genial Mr. David T. Fish, whose Ruskinian presence was much missed.

The Dinner

Was a characteristic and elegantly served meal, to which ample justice was done, and was of an essentially Scottish character. The bill of fare was printed in Scotch, and the dishes were Scotch, while the drink was also chiefly "Scotch," of very excellent quality. The menu card was of an ornate, "flowery" character, with coloured representations of Sweet Peas, Salpiglossis, &c., which were hardly in keeping with so much "Scotch." Why were Thistles not adopted? The menu, too, was not easily understood by the Southerner, and we are not quite sure if it quite observed the "Unities"—(Are Leeks and "German" greens specially Scottish?)—while the roasted and "biled" beef, we thought, was more characteristic of the Southerner. Perhaps at the full jubilee, twenty-five years hence, friend Chalmers will try some "braxy" mutton and "biled Thistles" for a change. We rather expected, too, to find the waiters to be stalwart Scotchman, clad in the "garb of old Gaul," instead of the very common type "made in Germany." These little inconsistencies notwithstanding, the dinner was excellent, and exceedingly enjoyed by the large company. Then came the time for the feast of reason and flow of soul, when the

Toasts and Speeches

became the order of the night. In a happy vein Mr. Comfort proposed the Royal toasts, which were loyally responded to, and then the feast of intellect and eloquence was introduced by the toast of the "Imperial Forces," proposed by Mr. Alexr. Mackenzie in a speech full of his characteristic eloquence and fervour, and of patriotic sentiment and feeling. Had volunteers been wanted there and then for the front Mr. Mackenzie at the close of his powerful speech might have placed himself at the head of the entire meeting to march at once against the enemy.

Mr. McKinnon then proposed the toast of "The Lord Provost, Magistrates, and Town Council of Edinburgh" in a neat speech, thanking them for their liberal and continuous support to the Chrysanthemum Show, as well as for their sympathy and help in all the undertakings of the Association. Bailie Brown replied to this toast, and expressed the warm appreciation by the city authorities of the beneficent work of the Association in improving the tastes of the people and educating them to higher ideals of life.

Then came the toast of the evening, "The Scottish Horticultural Association," proposed by ex-Bailie McDonald, of Dundee. In an eloquent and beautifully expressed speech, the worthy ex-Bailie eulogised the work of all such societies in their endeavours, not only to improve the cultivation of plants, flowers, and fruits by gardeners and professional horticulturists, but to create a taste for their cultivation among the masses of the people, and pointing out that, even where not a yard of garden ground was possessed, a window-box could be utilised where to grow a few flowers to beautify the homes of the poor. He mentioned that the Corporation of Dundee, in order to encourage this kind of gardening, had furnished window boxes and soil to the poorer classes, and that a most interesting exhibition had recently been held of the products of such gardens. The ex-Bailie expressed the great gratification, not only of himself, but of all true horticulturists, at the success which had attended the efforts of the Scottish Horticultural Association during the quarter century of its existence, and hoped that that success would have no ebb tide, but would continue in the future in even greater measure than in the past.

To this toast the president, Mr. Comfort, replied with a most appropriate and impressive speech, in which he reviewed in a most interesting and comprehensive manner the past work of the Association: How educating and stimulating it had been to the hundreds of young gardeners who had attended its meetings during the past twenty-five years, and of the stores of knowledge it had imparted to them when they went forth into the world to carry out their life's work; and how strengthening it had been to the older members to meet month after month, compare experiences, and profit by the successes and failures of one another; how the writers of papers had profited as much by the research and study it had taken to write them as the audiences had done by the knowledge imparted to them. He considered it a source of great gratification that the Scottish Horticultural Association had been the means of the spread of similar associations all over the country, and that a great advancement had been made by the spread of knowledge through such societies which could not have been achieved by the older horticultural societies, which merely existed to promote flower shows, useful and profitable as these have been. He

expressed the warmest gratification at the wonderful amount of success which had attended the Scottish Horticultural; and pointed out, as almost phenomenal, that after all these years the monthly meetings had never grown stale, but were better attended at the present time than at any period of the Association's existence, and how that month after month the addition of new members was always a fresh guarantee of continual prosperity. He was specially grateful that the Association had been enabled so largely to assist the gardening and other charities, and that they had been so frequently enabled to relieve urgent distress among the poorer of their own brethren. Mr. Comfort concluded by an appeal to the younger gardeners to walk worthy of their vocation, and to thoroughly equip themselves in youth with the knowledge necessary to the creditable carrying out of their life's work, and pointed out that with them lay the future of horticulture and the Horticultural Association. The older members would, in a sad and slow procession, one by one pass over to the land of silence, and the blank places would have to be filled up by the younger men, who it was hoped, by taking advantage of the improved means and facilities for obtaining knowledge at their disposal, would attain a position which had been impossible to their fathers. Mr. Comfort's speech was received with much appreciation.

Ex-President R. W. E. Murray then proposed the toast of "Kindred Societies" in a very appropriate speech, pointing out that all such societies, whether horticultural, arboricultural, or agricultural, had one object in view, and that was the amelioration of the conditions of the life of mankind, any rivalries that existed among them being, who could best and most fully achieve that object? He warmly welcomed the representatives of kindred societies present, and coupled the toast with Mr. Dean, who, though specially representing that night the National Chrysanthemum Society, was also intimately associated with other horticultural bodies, and by his many services, as well as by his work and his pen, had done more than most men living for the promotion of horticulture.

Mr. Dean, who received a very warm welcome, in a neat and beautifully expressed speech thanked the audience for their warm welcome to him personally and for the hearty appreciation they had shown for the welfare and work of kindred bodies. He narrated the work carried on by many of the metropolitan societies, and that good work was being accomplished by some of the smaller sectional societies by keeping up an interest in flowers which otherwise might fall into neglect. Mr. Dean expressed the pleasure it gave him to be present on such an occasion, and the gratification it gave him to know of the good work for horticulture which the Scottish Association had achieved. He concluded by appealing to the members to slacken none of their efforts for horticulture, and that, though fashions changed in flowers as in other things, the efforts and energies of horticulturists never changed. Mr. Dean closed his invigorating speech amid a perfect storm of applause. Other toasts followed: "Our Guests," proposed by Mr. Robert Laird and replied to by Councillor McMichael; "The Press," proposed by Mr. McHattie and responded to by Mr. Gilbert, of "The Scotsman"; "Officials, Past and Present," proposed by Mr. Murray Thomson and responded to by Mr. Todd (who received a very warm welcome); and Mr. Loney, "The Croupiers." "The Chairman" brought the toast list to a close.

During the evening a most excellent programme of songs was gone through and added greatly to the enjoyment of the company, and towards the close of the meeting "Sandy" Johnston, the "Poet Laureate" of the Association, recited with great fervour his patriotic poetic effusion "Britannia Yet." Mr. Chalmers (who was convener of the dinner committee), with characteristic energy, had most successfully arranged the musical proceedings as well as all the arrangements for the dinner. A very hearty vote of thanks was accorded him, and at twelve o'clock the company, in most enthusiastic fashion, sang "Auld Lang Syne." Thus ended a most successful, enjoyable, and memorable function.

Mr. Robert Laird was for many years identified with the Association as its honorary secretary, and during his period of office the success of the society was constant and very obvious. He is a gentleman in the prime of life—a tall, handsome, hearty Scotchman. As younger partner in the robust firm of Messrs. R. B. Laird and Sons, Limited, nurserymen, &c., Edinburgh, he is well known and respected by his very many friends and business acquaintances. His elder brother, Mr. D. P. Laird, J.P., is an Edinburgh "character," whose presence always signifies joviality, mirth, wit, and happiness. Both brothers are capital business men, and stand in the forefront among the Scottish nurserymen. Robert manages the office work and seed establishment in Frederick Street, while the nurseries and his auctioneering business, occupies Mr. David P. Laird.

Mr. William Mackinnon, the present honorary treasurer to the Scottish Horticultural Association, is reputedly a strict and safe business gentleman. On the retirement of Mr. Alexander Mackenzie from the treasurership a year or two since, Mr. Mac-

kinnon was appointed to the office. One never sees him debating at the monthly meetings: that's not so much his bent; but his presence can usually be counted, and perhaps he finds sufficient to do in gathering in backward subscriptions! Outside of the Association his business capacity is that of general manager in the firm of Mr. John Downie, whose seed establishment in Princess Street, near the Caledonian Station, is one of the best known houses in Edinburgh. Mr. Mackinnon may frequently be found busily engaged in the office here, or at the Beechhill nursery of the firm, and the new nurseries in preparation now must necessitate considerable attention from him.

Mr. Alexander Mackenzie, for long the efficient and trusted honorary treasurer, is manager to Messrs. Thomas Methven and Sons, whose nurseries at Warriston and Leith Walk are examples of good order, cleanliness and quality in stock. Mr. Mackenzie's long connection in his capacity as manager of the Methven's nurseries has made him a foremost figure in Scottish, and particularly Edinburgh horticulture. We have enjoyed his hospitality at the pretty home near the Botanic Gardens, and have joined in the hearty applause that always follows his eloquent and beautiful orations, that are, too, soundly practical, and delivered at the monthly meetings of "The Scottish." We trust that as a leading light and greatly valued supporter of the Association, he may long be spared to render that generous help which, in the past, has been of such material assistance to this vigorous society and its members.

Mr. Charles Comfort, who was re-elected for the second year to the presidential chair at the recent annual general meeting, comes of a good gardening stock, and his energy is a marked characteristic of him. A brief review of Mr. Comfort's career includes the start as an apprentice at Dalvey Gardens, near Forres, the property of the late Norman McLeod, Esq. On leaving Dalvey, Mr. Comfort acted as foreman for a period in the gardens of the late Miss McPherson Grant, at Aberlour House, Banffshire, moving from there to Donibristle, where he acted as outdoor foreman under the late Mr. Mair. Mr. Comfort vacated this situation for that of his first headship, which was in the gardens at Raasay House, Isle of Raasay, Inverness-shire, where five years were passed. From there a southerly migration was made, twenty-two years ago, first to Cameron House, Fife, and then to The Gardens, Broomfield, Davidson's Mains, Midlothian, where, as head gardener to Mrs. Haig, our friend has enjoyed the full confidence and esteem of his employer. The first two years of the twenty-two were spent with the same lady at Cameron House. His paternal parent was a gardener (still alive) and his five sons all follow the same profession. Mr. Comfort is an apt speaker at public meetings, quick to observe and catch a point, careful and ever eager in business, and has, so far as we are judges, all the qualifications that fit him for the responsible and honourable position as President of the Scottish Horticultural Association.

Mr. Peter Loney, who succeeded Mr. Robert Laird in the honorary secretaryship about two years ago, is likely to maintain the best traditions of that most onerous and consequential position. His constant affability and enormous capacity for work will bear him along successfully, as it has done throughout. Though now residing at 6, Carlton Street, Edinburgh, it was only in the year 1894 that he left Sir Hugh Hume Campbell's Marchmont estates in Berwickshire, where he was overseer, and settled in the northern metropolis. His removal from Marchmont caused widespread regret, and in a short biographical notice that appeared in the "Berwickshire News" on May 22 of that year, the writer of it remarked that "his removal has occasioned a very marked blank in the district, where his commanding presence, cheery salutation, wide intelligence, and great business capacity were universally known and appreciated." Yes, these attributes are true in each direction, and only a man of mark could have impressed the Edinburgh folks to elect him to the most important office of this or similar Association. Peter Loney was born in Abernethy, Perthshire, and after passing through the Parish School of Rait, at an early age he started work in the gardens at Fingask Castle, the beautiful seat of Sir Peter Murray-Threipland, where his father was gardener. He did not, however, lose sight of the schoolmaster, but attended an evening school four times a week. It was during these precious extra hours that Mr. Loney, in common with many more, felt the real value of education, and had a thirst awakened which has made him a student all his life. It is not our intention, however, to follow each of his subsequent steps in detail at this time. At eighteen years of age he removed to the gardens at Camperdown, where shortly he was made outdoor foreman. From thence his next appointment was as general foreman at Gordon Castle, with the direction of thirty men, and remained here during two years. Far south we next find him, to wit, in the nurseries of Messrs. Thomas Jackson and Son, Kingston-on-Thames, and laid out an estate at Epsom for the firm. An appointment as head gardener at The Clarence, near London, followed, and while here the meadows and home farm were also placed under his supervision, and on leaving for March-

mont he was presented with a very handsome piece of plate. We may observe that a valedictory gift was also given to him by the employes when he left Gordon Castle. At Marchmont Mr. Loney spent thirty of the best years of his life. But this notice must end for the present, though not before we convey to Mr. Loney our sincerest wishes for his welfare in Edinburgh, and express our hopes that he may continue for a long while yet in the official capacity as honorary secretary of the Scottish Horticultural Association.

The Horticultural Hall.

On Friday last, March 21, at 3 o'clock p.m., in the Drill Hall of the London Scottish Volunteers at Buckingham Gate, Westminster, a special general meeting of Fellows of the Royal Horticultural Society convened for the purpose of deciding whether or not a hall would be accepted as the means of celebrating the Centenary of the Society in 1904, and if so decided, as to what site would be chosen. After considerable discussion on both sides, the ultimatum of the meeting was that an Horticultural Hall be erected at the Vincent Square site previously referred to in these columns as being the one recommended by the Council.

Sir Trevor Lawrence, Bart., the President of the Society, occupied the chair, and was supported by all of the Councilmen, except Mr. C. E. Shea and Mr. Bennett-Poë. The meeting, in point of numbers, must have been a record one, and occupied a half of the body of the Hall.

In his opening remarks Sir Trevor said he hoped that the meeting that day would arrive at a decision of considerable importance. He approached the task of proposing the motion in favour of a hall with a considerable sense of responsibility. In the history of a Society such as this, there were times when grave questions must always arise, and though these might occasion differences of opinion, he trusted that the Fellows would recognise that the Council, at any rate, had the welfare of the Society at heart. At home and abroad the Royal Horticultural Society has become the reputed head of horticulture in this country, or, indeed, in the Empire. Many Fellows considered that either a new hall or a garden was desirable in itself, but unfortunately one cannot have both at once, and which was to have priority? Looking to the necessity of having a strong horticultural society in the British Islands, and to the ever-increasing interest in horticulture throughout the Empire, and surveying the history of the Society since quitting South Kensington, Sir Trevor ventured to think that both a new hall and a new garden would be secured before this century is far gone. The chairman then briefly laid before the meeting the reasons in favour of a hall. The Drill Hall at present used had been accepted on coming from South Kensington, merely as a makeshift, and the Society has now entirely outgrown this hall. Besides being noisy, draughty, and often cold, it was entirely unsuited for lecturing in. Touching on the negotiations for the site for a new hall, Sir Trevor recapitulated the facts as previously published in the *Journal of Horticulture* and its contemporaries. Turning to the question of a new garden, there were many points in favour of why a new one should be got. A society like the Royal Horticultural requires a good garden for scientific and practical experiments, and it is hoped to have a new garden very soon. Sir Trevor here mentioned that the surrender value of the twenty years' lease of Chiswick Garden is now known to be less valuable than was at first supposed. Many inquiries were made for a suitable site for a new garden, but it was discovered that the moment one tries to get land lying near a railway, there is a building interest attached and prices accordingly rule high. Comparing the arguments in favour of a hall, on the one hand, and a garden, on the other, Sir Trevor thought there was a decided advantage on the side of a hall. He paid a high tribute to the unceasing interest and aid rendered by Baron Schröder. In the dark days of South Kensington Baron Schröder's advice and assistance were largely the means of rescuing the Society from failure. He also read a letter from the Baron (who is in the Riviera), in which the latter expressed the hope that the meeting would that day pass the motion for a hall.

Rough preliminary plans and estimates for a hall are prepared, though on March 21 they were not ready to be presented. £25,000 will be required for the building scheme; but, looking to the vast number of wealthy Fellows of the Society, it is anticipated that this sum will be secured without difficulty. The Council will not draw upon the accumulated funds of the Society if it can be avoided. The rates, taxes, &c., entailed by the new hall will come out of the yearly income. The details in connection with the new hall plans must necessarily be left to the Council. Having concluded his remarks, Sir Trevor then read his motion, as follows:

That the Fellows of the Royal Horticultural Society in general meeting assembled accept the proposal of building a new Hall in celebration of the Centenary of the Society, and hereby adopt the report laid before them this day by the Council. They also desire to record their appreciation of Baron Schröder's public-spirited conduct

in securing a site which they hereby adopt, and they authorise the Council to take the necessary steps to enable the building to be opened in the year 1904.

Sir William Thistleton Dyer, Director of the Royal Gardens, Kew, was called upon to second the motion, which he did in language beautiful and convincing. Sir William quoted the words spoken by his present Majesty when, as Prince of Wales, he opened the Society's Temple Show on the year following the removal from South Kensington. On that occasion the King had been solicited to lend his gracious sympathy in the efforts the Society hoped to make to secure a home—a hall of its own. He replied: "I sincerely hope your labours in that respect may be successful, for I feel sure that such a hall will be of the greatest service to your Society." "And now that the gift of a hall was simply dangling over our heads, would we, or could we," said Sir William, "let it pass?" In the "synoptic ten minutes" passed at a Drill Hall meeting what an amount of business transactions can be accomplished! How much can be seen! Here, at the exhibitions, you have the labours of a lifetime, and the very best of all the London nurseries and gardens are centred in one place, which, to the busy man, is an inestimable advantage. "The Hall" is the rendezvous of horticultural life. In view of the continual passing away of site after site during the last few years, Sir William confessed that the offer now before the Society was beyond his most sanguine expectations, and with the support already volunteered from Baron Schröder and other gentlemen it would seem like throwing God's gifts away not to accept it.

Mr. Charlss E. Shea proposed, and Mr. Bennett Poë seconded, an amendment to the chairman's proposition, desiring that the consideration of the Council's report be postponed for one fortnight, and that a ballot of all the Fellows be taken. Sir John Arbuthnot and Mr. George Gordon supported the amendment. On the chairman's side speeches followed from the Very Rev. the Dean of Rochester, Sir Michael Foster, Dr. Masters, Surg.-Major Ince, and Mr. A. W. Sutton, after which votes were taken, and on Sir Trevor's proposition being put, only three dissentients were counted. Thus the new Hall scheme (a wise and progressive enactment) was passed, and is now being developed.

Societies.

Royal Horticultural—Drill Hall, March 25th.

Tuesday's Show was very large, varied, and attractive, and all sections of the trade were well represented.

Orchid Committee.

Present: Harry J. Veitch, Esq. (in the chair); with Messrs. James O'Brien, de B. Crawshay, H. Ballantine, Jas. Douglas, John Cypher, H. A. Tracy, F. A. Rehder, H. J. Chapman, H. T. Pitt, N. A. Bilney, G. F. Moore, E. Hill, J. W. Odell, F. J. Thorne, W. H. Young, W. Boxall, W. H. White, W. B. Latham, H. G. Fowley, H. Little, and C. Lucas.

Messrs. Linden, Brussels, staged *Odontoglossum Loochristiense* var. *Etoile d'Or*, a fine, deep-coloured form; *O. crispum* var. *Miss Lucien Linden*; *D. nobile*, Linden's variety; *Phalænopsis amabilis*, var. *Rimestadiana*, with flowers of great size and purity. M. Florent Claes, Rue des Champs, 55, Etterbeek, Brussels, staged a number of *Odontoglossums*, including *O. crispum Trianae*, mauve tinted and chocolate spotted; *O. c. Castor*, with white petals and brown spots; and *O. Andersonianum* variety.

Messrs. Hugh Low and Co., Bush Hill Park, Middlesex, staged a most delicately beautiful *Cattleya*, *C. Trianae* "Phyllis," with broad petals and narrow sepals, the lip open and beautifully fringed in front, each of the segments and lip being mauve tinted. The throat is orange. *C. Mendelli* was well shown, and also *C. Regnelli Schilleriana*.

Sir Trevor Lawrence, Bart., Burford, Dorking, as usual, had some very fine Orchids, including *Cœlogyne pulchella*, *Cœlogyne sparsa*, *Cattleya Trianae* *Reine des Belges*, and *Cirrhopetalum fimbriatum*.

Mr. W. B. Latham, of the Botanical Gardens, Edgbaston, Birmingham, had staged a handsome *Cypripedium*, with reddish pouch, wavy brownish-red sepals, and white-edged dorsal sepal with green base and centre.

G. F. Moore, Esq., Chardwar, Bourton-on-the-Water, staged *Phaio-Cymbidium* var. *Chardwarensis*, the result of a cross between *Phaius grandiflorus* and *Cymbidium giganteum*. The lip has much of the *Phaius* form, and strength and stiffness has been imparted to the yellowish chestnut sepals and petals.

Captain Holford, C.I.E. (grower, Mr. Alexander), Westonbirt, Tetbury, staged *Odontoglossum Loochristiense*, var. *Lady Grenfell*, which obtained an Award of Merit. The yellow colour is very deep, and the chocolate marking is rich and distinctive. He also staged *Dendrobium Sybil magnificum*, on one pseudo-

bulb, of which there were two dozen large-sized and deep purplish flowers. *D. Apollo albens* was also shown.

W. G. Burkenshaw, Esq. (gardener, Mr. J. Barker), The West Hill, Hessle, near Hull, had three *Dendrobiums*, namely *D. x Ainsworthiae splendidissimum* Hessle var. (*D. aureum x D. nobile*); *D. x Rolfæ roseum*, a natural hybrid between *D. nobile* and *D. primulinum*; and *D. Ainsworthiae splendidissimum flavescens*. He also showed a pretty little *Microstylis* sp., with flowers like a *Silene*. He also staged a fine group on another table.

Jeremiah Colman, Esq., Gatton Park, Reigate, Surrey, evidenced his strength in the growth of *Cymbidiums*, and showed beautiful forms of *C. eburneum*, *C. Lowi-eburneum*, *C. Lowianum*. *Cypripedium villosum* and *Odontoglossum triumphans* here shown were most vigorous and floriferous.

Messrs. Sander, of St. Albans, exhibited, under a large bell glass, a finely flowered plant of *Miltonia vexillaria x M. Roezli*, a fine large hybrid, nearly white, with orange throat, and mauve suffusion at base of the upper segments. Their *Cattleya amethystoglossa* var. *Sanderæ* received a First Class Certificate. It is a very fine white-flowered variety. They had a number of other fine varieties of various genera.

Messrs. James Veitch and Sons, Limited, presented an interesting mixed group, in which was noted *D. Sosius*, deep mauve-purple, save for a white ring in the lip; *Lælio-Cattleya Clonia* var., with bright purple lip; and *L.-C. Digbyano-Schröderæ*, very pale pink in colour.

H. T. Pitt, Esq., Stamford Hill, placed together one of the most effective groups in the hall, being bright, varied, and beautiful—*Odontoglossums*, *Dendrobiums*, *Cattleya*, and *Epidendrums*.

Messrs. Charlesworth and Co., Heaton, Bradford, set up *Phaius x Normani rosea*, very strongly flowered; *P. Marthæ*, a more attractive flower than the latter, having tea-coloured petals and sepals; *Angræcum Sanderianum*, *P. Normani aurea*, *Odontoglossum Adrianae* Duchess of Cornwall, a dense raceme, and flowers having crimped segments. Their *Cattleya x Louis Chaton* is large and very distinct, with bright purple lip.

Messrs. Stanley, Ashton, and Co., Southgate, N., had an attractive group of *Lælia Jongheana*, the plants robust, clean, and well-flowered.

Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq. (in the chair); with Messrs. Joseph Cheal, Henry Esling, S. Mortimer, Alex. Dean, Horace J. Wright, Geo. Kelf, H. Markham, F. Q. Lane, James Sweet, G. Norman, James H. Veitch, A. H. Pearson, and Edwin Beckett.

Lord Aldenham (gardener, Mr. E. Beckett), Aldenham House, Elstree, obtained a cultural commendation for sample baskets of Mushrooms, shown as grown in the bed.

Messrs. J. Veitch and Sons, Limited, Chelsea, presented a collection of eighty-eight dishes of Apples, each exhibit in splendid condition. Of those that were specially meritorious the following may be named: Lane's Prince Albert, King of the Pippins, Cox's Orange Pippin, Winter Peach, Alfriston, Lord Derby, Blenheim, Chelmsford Wonder, Beauty of Kent, Schoolmaster, Lewis' Incomparable, and Newton Wonder. Staged as they were in baskets of four sizes, the smaller at the front, and on white paper, the splendid colouring of the fruits was seen to the best.

R. M. Whiting, Esq., Credenhill, Hereford, sent two dozen dishes of Apples, including Dumelow's Seedling, Northern Spy, Newton Wonder, Scotch Bridget, and others, each of which were well-kept and fine in all respects.

Floral Committee.

Present: W. Marshall, Esq.; with H. B. May, Chas. T. Druery, Geo. Nicholson, John Jennings, J. F. McLeod, Wm. Howe, John A. Nix, Chas. Jefferies, W. Bain, C. J. Salter, H. J. Cutbush, F. Page-Roberts, Chas. E. Shea, W. P. Thomson, E. H. Jenkins, Wm. J. James, R. Wilson-Ker, Chas. Blick, and R. H. Wallace.

Messrs. T. Cripps and Son, the Tunbridge Wells Nurseries, staged a fine batch of *Retinospora obtusa* Crippsi, that new break that occurred with them two or three years ago. It is a splendid golden coloured shrub, that does not burn. *Acer palmatum rosea marginatum*, *A. palmatum palmatifolium*, *A. p. flavescens*, *A. p. dissectum purpureum*, *A. japonicum*, and *A. j. laciniata* were on view. These are all very choice and beautiful.

Messrs. T. S. Ware, Limited, Hale Farm Nurseries, Feltham, showed hardy plants, chief among these being *Shortia galacifolia*, *Chiogenis hispida*, a reddish-leaved trailing plant; *Primula viscosa nivalis*, *P. acaulis cærulea*, *Arabis dingeana* (flowers white), *Viola odorata lutea*, *Incarvillea Delavayi*, *Ramondia Nataliae*, *P. Forbesi*, and many other choice spring hardy flowers.

Messrs. W. Cutbush and Son, Highgate, London, N., set up a handsome group of Azaleas, Guelder Roses, Magnolias, Hawthorns, Laburnums, double white Lilac, variety *Mme. Lemoine*; double *Prunus*, and such other forced shrubs.

Messrs. J. Veitch and Sons, Limited, staged a splendid group of seedling *Clivias*, with trusses of an enormous size. Mr.

Arthur W. Wade, Riverside Nursery, Colchester, had hardy flowers, chief among which were *Bulbocodium vernum*, *Chionodoxas*, and *Iris reticulata*.

Mr. George Mount, of Canterbury, must have warmed the hearts of Rose lovers by his superb exhibit of forced Teas and H.P.'s, all fresh, strong, clean, and up to show standard. He staged two boxes of two dozen each, besides a number of long-stalked blooms in vases. The varieties were, amongst others, John Laing, Ulrich Brunner, La France, The Bride, Niphetos, Captain Laing, and Bridesmaid.

A grand collection of robust *Cinerarias*, of the star form, was set up by Messrs. Cannell and Sons, Swanley, and Ghent Azaleas in the varieties *occidentalis* (primrose hue) and *alteclarense* (orange) came from Messrs. R. and G. Cuthbert, Southgate, N., while Messrs. J. Laing and Sons, Forest Hill, S.E., had a group of Maples, forced shrubs, *Calla Elliottiana*, and greenhouse plants.

Messrs. J. Veitch and Sons, Limited, Chelsea, staged about 100 plants of Hyacinths in pots, with Maidenhair Fern, chief amongst which we noticed *Electra* (pale blue), *City of Haarlem* (primrose), and *La Belle* (delicate pink), and many others of great merit.

Messrs. Geo. Jackman and Son, Woking Nursery, Surrey, were represented by a varied collection of hardy plants and flowering shrubs. We noticed *Incarvillea Delavayi*, with two nice spikes; *Album Erdelli*, *Pulmonarias*, *Primula acaulis cærulea*, and many others, forming a very pleasing exhibit.

Messrs. John Waterer and Sons, Limited, American Nurseries, Bagshot, has some very fine specimen plants of *Andromeda floribunda* lifted from the open ground. These plants were covered with bloom, and were splendid examples of good culture. Vote of thanks.

At one end of the hall Messrs. Hugh Low and Co., of Bush Hill Park Nurseries, Enfield, had an interesting group of forced flowering plants, forming a very bright and nicely coloured exhibit, amongst which Turner's Crimson Rambler Rose, in pots, were opening well, and *Acacias*, *Cytisus*, *Azalea mollis*, *Carnations*, and standard *Prunus*, with *Hydrangea paniculata*, as nice stocky plants, gave colour to a pleasing group.

Mrs. Patrick Heron-Maxwell, of 150, Victoria Street, S.W., had an exceedingly nice table decoration of Violets, Daffodils, with Ivy and the Palm Willow. Vote of thanks.

Captain Holford, Tetbury, Gloucester, sent a few pots of *Hippeastrums*, one, *Sir Christopher Wren*, a rich crimson, obtaining an Award of Merit. All were of good form and colour.

Some splendid flowers of *Lapageria rosea*, The Knoll variety, were sent by Sir Trevor Lawrence, Bart., Burford, Dorking (grower, Mr. W. Bain); also *Kæmpferia angustifolia*, a pale mauve, deeper colour on lip.

Miss Willmott, from Warley Place, Warley, Essex, sent *Narcissus Ebor*, the giant cyclamineus, also *Iris Warleyensis*, a pale blue, darker in the lip, with a spot of orange. This plant, which represents a new species, had a plentiful foliage of a glossy hue. Also *Fritillaria askabadensis*, a new species, yellowy green perianth, with green nectaries at base, and prominent stamens.

P. D. Williams, Esq., Lanarth Street, Kevern, Cornwall, sent a fine *Narcissus maximus*, "True College Gardens," of a rich bright yellow colour, a distinguished looking flower.

An interesting collection of spikes of Hyacinths, "from bulbs that have been in the ground four years without being touched, only getting a top-dressing of manure in the autumn, and a few waterings of liquid manure," sent by Dr. Bonavia, Richmond Road, Worthing, and were certainly very creditable examples of such a practice.

M. Linden, of Brussels, exhibited *Hæmanthus maximus*, with a fine head of very rich salmon flowers.

Mr. R. W. Hockey, of Bridport, had a bunch of fine La France Violets.

The Dowager Lady Williams Wynn exhibited a choice collection of double Violets, in pots and vases, as Marie Louise, Count de Brazza, Victoria, New York, and a new sport named The Dowager Lady Williams Wynn, from Count de Brazza.

Messrs. De Luzy, Frères, Camberwell, exhibited a new form of powder bellows, with a special mechanism for crushing lumps of material used: also a sprayer, for which it was claimed that the finest possible dew can be obtained.

Messrs. Osman and Co., 132 and 134, Commercial Street, London, E., exhibited some coloured raffia in various tints of green of a lighter colour than that usually used.

Narcissus Committee.

Present: Henry B. May, Esq. (in the chair); with Messrs. W. Wilks, W. Poupart, W. T. Ware, W. Goldring, J. D. Pearson, R. Sydenham, S. Eugene Bourne, Miss E. Willmott, J. Pope, W. F. M. Copeland, G. H. Engleheart, G. Reuthe, P. R. Barr, and C. Scrase Dickens.

Mr. Leonard Brown, F.R.H.S., of Brentwood, staged a good lot of Hyacinths in 12in pots, six to a pot, and *Narcissus Sir Watkin*, *Golden Spur*, and *Princess Ida*, and *Scilla superba*, from bulbs grown in Essex were very fine, in 6in and 9in pots.

Messrs. Barr and Sons, Covent Garden, had a very fine table

of Daffodils and Narcissi, cut and in pots, with some in cocoanut fibre in large shallow bowls. Amongst the Daffodils *Emperor and Empress*, *Coronatus*, *Glory of Linden*, and *Princess Ida* were very fine, with *Narcissus Constellation*, *Poeticus Ornatus*, and *Gloria Mundi* were very nice flowers. The *Anemones* at the foot of the exhibit added colour to the whole stand. The same firm were also represented by a choice collection of hardy plants, as *Narcissus cyclamineus*, *Erythronium*, *Anemone blanda taurica*, with *Chionodoxa gigantea*, *Fritillaria aurea*, and *Lachenalia Rector of Cawston*. A very bright exhibit of much merit. This, together with the bulbous exhibit, obtained a Silver Banksian Medal.

Miss F. W. Currey sent from her Daffodil and Narcissus Nurseries at Lismore, in Ireland, a very interesting and representative collection of cut blooms from these plants, among which *N. Ard Righ*, *Victoria*, *Sir Watkin*, and *Rip Van Winkle* were in very good form.

Messrs. J. R. Pearson and Sons, Chilwell Nurseries, Lowdham, Notts, sent a new *Narcissus*, "Merit." The flowers are of good form, but small. The corona is a slightly deeper yellow than the perianth.

Medals.

ORCHID COMMITTEE.—Silver Flora for group from H. T. Pitt, Stamford Hill; Silver Banksian for group from W. Burkinshaw, Hesse, near Hull; Silver Banksian for group from Jeremiah Colman, Esq., Gatton Park, Surrey; Silver Banksian for group from Messrs. Stanley, Ashton and Co., Southgate; Silver Flora for group from Messrs. Sander and Co., St. Albans; Silver Flora for group from Messrs. Veitch and Sons, Chelsea; Silver Flora for group from Messrs. Charlesworth and Co., Bradford.

NARCISSUS COMMITTEE.—Silver Flora to Miss F. Currey, The Warren Gardens, Lismore, Ireland, for a group of Daffodils; Silver Banksian to Messrs. Barr and Sons for Narcissus; Bronze Banksian to Mr. L. Brown, Brentwood, for a group of Daffodils and Hyacinths; Cultural Commendation to Mr. R. Sydenham, Tenby Street, Birmingham, for Narcissus in jars.

FLORAL COMMITTEE.—Silver-gilt Flora for group of hardy Azaleas, Messrs. R. and G. Cuthbert, Southgate, Middlesex; Silver Banksian for group of hardy spring flowers, Messrs. G. Jackman and Co., Woking; Silver-gilt Banksian for group of forced plants, Messrs. W. Cutbush and Son, Highgate, N.; Silver-gilt Banksian for group of cut Roses, Mr. G. Mount, Canterbury, Kent; Silver Flora for group of *Clivias* and hardy shrubs, Hyacinths, Messrs. J. Veitch and Sons, Limited, Chelsea; Silver Banksian for group of hardy bulbous plants, Messrs. R. Wallace and Co., Colchester; Silver Banksian for group of Star *Cinerarias*, Messrs. Cannell and Co., Swanley; Silver Banksian for group of flowering shrubs, Messrs. H. Low and Co., Enfield, N.; Bronze Banksian, for Japanese *Acers* and miscellaneous plants, Messrs. J. Laing and Co., Forest Hill, S.E.

Certificates and Awards of Merit.

Cattleya guttata Prinzi var. *Sanderæ* (Sander & Co.).—This was shown by the firm of Sander & Co. under the name of *C. amethystoglossa* var. *Sanderæ*, but the Orchid Committee changed this to the name we give above. The firm still held to their own name, hence confusion in these records arise. The flower is ivory white, and very beautiful. (First Class Certificate.)

Cattleya × *Pathenia vernalis* (Lord Rothschild).—A magnificent flower with ivory white strap-shaped petals, and beautiful silvery petals. The lip is bright mauve, with an orange throat, and silvery fringe at the edge. The flower is a good size. (Award of Merit.)

Cypripedium Lawrenceanum (Sander & Co.).—A fine flower of this magnificent species was shown, and received an Award of Merit.

Cypripedium William Pitt (H. T. Pitt, Esq.).—Large in size, purplish mauve, with the apical parts of the segments fading off to white. (Award of Merit.)

Dendrobium Rolfe roseum (W. Burkinshaw, Esq.).—A beautiful flower of medium size, silvery toward the inner parts, and with deep purple mauve tips. (Award of Merit.)

Fritillaria askabadensis (Miss Willmott).—Flowers in whorls of eight or nine, of a greenish colour, on stalks 3in. long. The stems are fleshy and thick. (Award of Merit.)

Hippeastrum Sir Christopher Wren (Captain Holford).—A bold, full-sized, magnificently rich, deep crimson-scarlet coloured flower, smooth, even, and splendidly formed. (Award of Merit.)

Iris warleyensis (Miss Willmott).—A species with smooth, shining linear foliage, erect fleshy stems, flowering from the apex, these being much like the blooms of *I. persica*. (First Class Certificate.)

Lælio-Cattleya Digbyano Schrödera (J. Veitch & Sons).—A flower of medium size, having narrow sepals, and broader petals with strong central rib and fringed edges. The lip is moderately fringed. The colour is white faintly suffused with mauve, the throat being bright, deep yellow.

Lælio-Cattleya Myra × *Princess of Wales* (J. Veitch & Sons, Ltd.).—The petals here are large and broad, with deep glowing orange colour, the lip being long and fluted, having an amaranth crimson tip. (Award of Merit.)

Lælio-Cattleya Rosalind, var. *Prince of Wales* (J. Veitch & Sons).—A handsome flower with long tubular, though open lip, having an orange throat and coloured rich deep amaranth purple. The broad

and splendidly formed petals are purple, being mauve-coloured at the base and edges. (First Class Certificate.)

Odontoglossum Adriance, Mrs. Robert Benson (Capt. Holford).—The plant shown had fifteen flowers on one fine raceme. The ground colour is pale tea or primrose, marked and barred with chestnut brown. (First Class Certificate.)

Odontoglossum crispum var. *Miss Lucien Linden* (Sander & Co.).—The flowers are much under the standard size, and the raceme was not robust. The brown markings on the white, wavy petals were a very marked feature.

Odontoglossum loochristiense, var. *Lady Victoria Grenfell* (Capt. Holford).—One of the most beautiful varieties of *O. loochristiense*. The yellow of the segments is liberal and decidedly deep, being barred and marked with deep chestnut brown. (Award of Merit.)

Odontoglossum Ruckerianum Pittianum (H. T. Pitt, Esq.).—A peculiar variety with flowers of large size, wavy and dull ruddy hue; the segments, too, are spotted.

Sophro-Laelia laeta Orpetiana (Capt. Holford).—The flower is large and has much substance; in colour rich purplish crimson with a faint orange base to the lip.

Croydon Horticultural.

The usual fortnightly meeting was held at the Sunflower Temperance Hotel, on Tuesday, the 18th inst., Mr. W. J. Simpson presiding. Over fifty members were present and six new members were elected. Mr. R. Bastin gave an interesting paper on "Caladiums," and at the close a hearty vote of thanks was passed to him. At the next meeting, on April 1, Mr G. Gorden will lecture on "Flowering Trees and Shrubs."

Cardiff Gardeners' Association.

The annual meeting took place at the Grand Hotel on March 18, under the presidency of Mr. G. Tolman. The hon. treasurer produced the balance sheet, which showed that the past year's working had been very heavy; notwithstanding that, and chiefly owing to the hearty co-operation of vice-presidents, a very satisfactory balance was carried forward. J. Lynn Thomas, Esq., C.B., F.R.C.S., was unanimously elected president for the ensuing year. The whole of the vice-presidents were re-elected, with several new names added to the list. Mr. Charles E. Collier was elected chairman, Mr. J. J. Graham vice-chairman, Mr. Thomas Malpass re-elected hon. treasurer, and John Julian re-elected hon. secretary, and a representative committee. It was decided to hold their annual outing some time in August next, of which particulars will be furnished by the hon. sec. in due course.—J. J.

Liverpool Horticultural.

At a meeting of the above society, held on the 15th inst., Mr. Benson, of Bebington, read an admirable paper on "Hardy Border Plants." The subject being of such an extensive nature, the essayist could only deal with its main points, and dwelt principally on positions most suitable for this class of plants, especially advocating the employment of such favourites as Lilliums, Gladioli, and Galtonias to be freely planted amongst beds of Rhododendrons. The system of grouping several plants of each variety together, in the forming of herbaceous borders, received special attention. The reserve garden should also have attention where flowers are wanted in quantity in a cut state, and should occupy an open position in the kitchen garden where beds of Aquilegias, Delphiniums, Sweet Peas, &c., may be formed, and which would alleviate the necessity of spoiling the effect in the pleasure grounds. Mr. Benson also gave a list of many of the best varieties of herbaceous, bulbous, and shrubby flowering plants suitable for the purpose. Mr. Foster (chairman of the association) conducted the meeting, and at the close a hearty vote of thanks was accorded Mr. Benson, and to the chairman for presiding.—J. S.

Binfield Horticultural.

A meeting of this society was held in Miss Shacus' Iron Room last Tuesday week. Mr. E. Bungary occupied the chair, the subject for the evening being the Malmaison Carnation. An extra amount of interest was centred on this subject, as the society had fortunately been enabled to obtain the services of a lecturer who has made this flower his special study, and so is looked to as one of the best authorities upon this family group. The lecturer (Mr. Taylor, Carnation grower, Bracknell), with an evident thorough knowledge of his subject, ably treated to the smallest detail the different methods of cultivation as relating to the various soils; he also most emphatically refuted the prevalent idea of the Malmaison being a delicate flower and so should be raised with heat; in fact, he declared that it would stand as much frost as any flower indigenous to England. Although, he further remarked, it required a certain amount of protection at times, it would be quite spoiled if "coddled," and to obtain the best results ample supplies of fresh air must be furnished with but little heat. The lecturer next treated upon the diseases the plant was liable to. These, he gave his opinion, were primarily caused in most instances by "coddling" or excess of moisture. Several questions

were put to, and answered clearly and succinctly by, the lecturer, so ending one of the most interesting evenings of the course of lectures.

Birmingham and District Amateur Gardeners

A lecture on "The Rock and Water Garden" was given by Mr. C. R. Bick, head gardener at Harborne Hall, at the monthly meeting of this association, held at the Technical School on Thursday evening, the 20th. The lecture was illustrated by a series of excellent lantern slides prepared by Mr. Bick. The lecturer gave his information in a most interesting and entertaining manner, and the meeting was one of the most successful the society has held for some years. He deprecated the fashion prevalent with many present-day gardeners of making a rockery look more like Stonehenge than a natural creation. His hearers were surprised to learn what a vast number of rock plants could be grown in the suburbs of a large town. The president, Councillor Davis, presided.—WM. B. GRIFFIN, Hon. Secretary.

Reading Gardeners'.

A very pleasant evening was provided at the last meeting of the above association by Mr. A. Wright, of Bucklebury Place Gardens, Woolhampton, on "A Berkshire Garden; How it was Laid Out and Planted," which he illustrated by over forty lantern views prepared from photographs taken by himself at different periods of the formation of the garden. An interesting discussion followed, in which the president (Mr. Leonard Sutton), Messrs. Stanton, Neve, Exler, Lees, Fry, Powell, and Judd took part. The exhibits were exceedingly good, the honorary ones being staged by Mr. Townsend, Sandhurst Lodge Gardens (a collection of twenty-two varieties of Helleborus and three varieties of Iris stylosa); Mr. F. Bright, Whiteknights (a group of splendidly grown Freesias); Mr. Alexander, The Gardens, St. Mary's Hill (Cyclamen); whilst Mr. F. Lever, The Gardens, Pillside, staged a collection of Violets for the Society's Certificate, which was awarded him by the judges. Five new members were elected.

Publications Received.

"Mearns' Rose Society's Year Book." * * Metropolitan Public Gardens' Association, 86 Lancaster Gate, W.; Nineteenth Annual Report. * * The Horticultural College, Swanley, Kent; Report for the Year 1901. * * "Kew Bulletin of Miscellaneous Information;" Appendix III, 1902. Contents: "New Garden Plants for the Year 1901." * * "Les Engrais Chimiques en Horticulture." A useful treatise on the properties and benefits of chemical manures in plant nutrition. * * "The Manuring of Crops and Notes on Manure," by Douglas A. Gilchrist, B.Sc., F.R.S.E., Reading Agricultural College, March, 1902. The pamphlet on manuring contains information that should be of considerable service to farmers at this time, when manures are being purchased. Also a leaflet containing particulars of a practical course for farmers' sons. Scholarships to enable students to take this course are now offered by the Oxford County Council. * * "Meehans' Monthly," March, 1902, contains a beautiful coloured plate of *Brodiaea capitata*, or Headed Brodiaea.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1902. March.										
Sunday ...16	N.W.	deg. 47.9	deg. 43.4	deg. 55.4	deg. 38.5	Ins. —	deg. 44.7	deg. 44.8	deg. 44.4	deg. 27.3
Monday ...17	S.W.	49.1	47.7	61.5	37.0	—	44.6	44.9	44.6	30.3
Tuesday ...18	W.S.W.	47.8	42.7	50.3	39.5	—	45.9	45.2	44.7	30.8
Wed'sday 19	S.S.W.	49.9	44.4	56.1	43.7	—	45.4	45.2	44.9	37.3
Thursday 20	S.S.W.	47.6	45.1	49.4	41.3	0.25	45.4	45.5	45.0	32.3
Friday ...21	W.S.W.	45.9	42.1	51.1	37.2	0.19	43.9	45.3	45.0	27.5
Saturday 22	S.S.W.	43.5	40.2	48.3	35.5	0.16	42.9	44.8	45.2	25.3
MEANS ...		47.3	43.7	53.2	39.0	Total. 0.60	44.7	45.1	44.8	30.1

The first part of the week was fair with some bright sunshine; the latter part has been stormy. There was a thunderstorm on the 21st, when hailstones fell as big as small marbles.



The Kitchen Garden.

TRANSPLANTING ONIONS.—In favourable weather the autumn sown Onions may be transplanted into rich ground in rows, a foot apart, placing the plants 6in to 8in asunder. See that the roots are placed in the holes full length, keeping the bulbous part just on the surface. Press the soil firmly round.

PARSNIPS.—The present is an excellent time to sow Parsnips. The Student and Hollow Crown are good varieties; but Sutton's Tender and True is a fine, tender, and good-flavoured variety, though not so large as the Student. When large roots are anticipated, sow in drills 18in asunder, but for ordinary-sized roots 12in asunder will be sufficient.

CARROTS.—Sow now the main crop of Carrots, including some of the short varieties, as Champion Scarlet, Horn, or Early Gems. These come in earlier than the larger sorts, hence are useful on that account. To follow the above, sow some of the intermediate varieties, as well as Long Red, Surrey, and Altrincham. A suitable distance to draw drills for Carrots is 12in apart. The seed is light, so a calm day should be chosen, and the drills drawn in fine pulverised soil $\frac{1}{2}$ in deep. In soil given to be heavy or wet sprinkle the drills with wood ashes or work into the soil prior to drawing them. Sow the seed evenly and thinly, covering with the fine soil from the edge of drills.

BRUSSELS SPROUTS.—Where plants have been raised early from seed sown in boxes or pans it is desirable now to prick out the seedlings without delay, either into other boxes or into a frame. The latter, if it gives nominal protection, will be ample, as it can be removed entirely with advantage shortly. If properly hardened the seedlings would succeed if pricked out in the open on a sheltered border. A sowing should also be made in the open to furnish plants for later planting. It is desirable to sow thinly and protect the seedlings from birds. This can only be done by covering the seed bed effectually with nets or wire Pea guards if sown in drills.

CAULIFLOWER.—A general sowing of these ought to be made; but if a few score of seedlings have been raised early under glass prick them out into good soil in a frame where they can receive adequate protection until established and then gradually hardened for early planting. First Crop is an excellent variety for early work, while for general usefulness Veitch's Autumn Giant is indispensable. The latter variety may be preceded by Walcheren. Pricking out the plants immediately they are strong enough is a great aid in procuring stout, well-rooted plants for the final planting. Seedlings already established in boxes must be hardened to cooler treatment.

CABBAGE.—If the crop of spring Cabbage is deficient a further planting of seedlings which have stood over the winter in the seed bed may be made, or if such are not available, obtain plants from another source. Plant on rich ground in rows 2ft apart. Sow seed on a border to obtain plants for the autumn supply. The usual protection must be given the seed until the seedlings are well developed, then prick out a number on a border to strengthen.

POTATOES.—Continue planting Potatoes, dealing with the main crop and late varieties. Give the stronger growing sorts ample room between the rows, 2ft 6in to 3ft. The early varieties stood on end in boxes to develop sturdy sprouts, must have cool and airy treatment to ensure their becoming hardened for planting out very shortly.

PEAS.—Early attention should be given to staking advancing Pea rows, doing the work before the plants become too tall. A little earth drawn on each side the rows is of advantage. Further sowing ought to be made, including such excellent sorts as Prince of Wales, Duke of Albany, Sutton's Bountiful, Telegraph, Early Sunrise.

CELERY.—Where seed was sown in pans early in February the seedlings will now be ready to prick out in boxes or in a frame. A cold frame will be suitable, placing at the bottom a layer of manure and on this a few inches of soil, making it firm, and pricking out sturdy seedlings 4in apart.

Mexico.

"A land of white sunshine, redolent with flowers; a land of gay costumes, crumbling churches, and old convents; a land of kindly greeting, of extreme courtesy, of open, broad hospitality," such is the encomium bestowed by a great traveller writing of Mexico. After all (says an exchange), what land is devoid of special attractions where Nature has sway of her artistic powers, and the high arts of man are made to join harmoniously in every production?



* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

LOUDON'S SELF INSTRUCTION FOR YOUNG GARDENERS (Scottish Reader).—We are sorry to say that this valuable book is scarce, and is only to be met with occasionally at a second-hand bookseller's.

NAME OF INSECTS (H. R., Kent).—The larvæ sent are not those of the cockchafer, though they may be turned up during winter of various sizes; the other, the grubs of the common and destructive weevil, called *Otiorhynchus sulcatus*. Your moth is a harmless species, the herald (*Gonoptera libratrix*), named because it is reputed to be one of the pioneers of spring. Emerging from the chrysalis in autumn, this moth hibernates amongst barns, outhouses, or tool sheds, and may occasionally enter conservatories, coming out about the end of March. The caterpillar feeds on Sallows and Willows; it is of a delicate green tint, with velvety skin, and when adult, spins a cocoon upon the twigs.

INSECTS ON VINES (A. B.).—The insect (one only was found in the box) is a Thrips (*T. adonidum*, syn. *Heliothrips hæmorrhoides*), one of the worst pests that can gain a footing on Vines. The larvæ and pupæ are yellowish white, and the perfect insect is of a dull deep black, with the point and sometimes the whole of the abdomen of a rust colour; the wings are dirty white, the horns and legs yellowish, the extremity of the former black. It attacks plants by piercing the under side of the leaves, and one often sees at the tip of the tail, a globule of blackish fluid, which it soon deposits, this being that found on the bunches. The only desirable mode of riddance on Vines is fumigation with tobacco paper, this being of good quality, and the fumigation not excessive will not injure the Vines, it being advisable to fumigate on two or three consecutive evenings moderately and repeat in the course of about four days, and also again at a similar interval. Of course, the insects will prejudice the setting of the Grapes, but the falling off of the berries, or should-be berries, at flowering stage is due to imperfect formation, or at least setting, of the fruit, though there does not appear anything defective in the embryonic or bunches partially developed you enclosed. The thrips thrive in a dry atmosphere, it not being usual for them to attack Vines so early where they have been duly syringed up to the flowering stage or showing of the bunches, and probably this practice has not been pursued.

TREATMENT OF SMALL PLANT OF STEPHANOTIS (John).—As the plant had but few roots, it would have been advisable to have kept it in a smaller size rather than given it a shift into a larger sized pot, as this will not forward, but rather retard the formation of roots. However, we should keep the plant rather dry at the roots, not watering until the soil becomes on the dry side, then giving a thorough supply, as excessive moisture is against free rooting, and also has a tendency to induce soft, long-jointed growths. Indeed, *Stephanotis* should not be excessively watered at any time, and it should be grown in the fullest light, training the growths on strings in preference to a trellis, especially when required to be trained on a balloon or other shaped trellis in the pot for flowering. Sturdy, well solidified growths are essential for producing bloom, hence the nearer the glass without touching it the growths are trained, the better the prospect of securing large bunches and fine flowers in plenty. It succeeds in a temperature of 60deg to 65deg at night, 70deg to 75deg by day, with 80deg, 85deg, or 90deg from sun. Under those conditions it can hardly fail to do well, being, of course, potted in good turfy loam, not over-watered at any time, and only sufficient given in winter, or when at rest, to prevent the foliage becoming limp. There is a difference in variety, some being indifferent in flowering, and others, as the *Elvaston* variety, being sturdy growing, short-jointed, and very floriferous. If the plant grows freely and fills the pot with roots, it may be shifted into a size larger in June, not otherwise, as over-potting is a great mistake. Afford good drainage.

NAMES OF PLANTS (A. T.).—1, *Seilla bifolia alba*; 2, *Cyclamen Coum*; 3, *Primula Forbesi*; 4, *Cornus maseula*; 5, *Cydonia japonica cardinalis*. (Thos. B.).—The Tulip seems to be *Mons Tresor*. (John).—Probably had we flowers as well as the foliage you send, we might be able to name. The order is confused with *Hymenocallis*. (R. L. T.).—1, *Dendrobium aureum*; 2, *D. Ainsworthiæ*; 3, *Cypripedium Lawrenceanum*.



The Wool Trade.

"When the bottom is reached there can be no movement except for a rise." That the wool trade has recently reached bottom few will deny. Good wool at 13s. per ton, 6s. 6d. per stone, 5½d. per pound, must surely represent the lowest possible range of prices, unless the unfortunate producer is to pay the manufacturer a premium for taking his wool off his hands. We remember well the time when wool was worth 2s. 6d. per pound, and for many years it rarely fell below 1s. 6d. During all that time we purchased suits of clothes, blankets, and other woollen goods. A Scotch tweed suit, well cut and made, costs as much now as it did then. Blankets are cheaper, but very little in proportion to the fall in value of the raw material of which they are made; whilst other woollen goods, other than shoddy, have pretty much the same value they had twenty or twenty-five years ago.

Here is a puzzle indeed. The farmer is getting little or nothing for his produce, and at the same time manufactured goods are as dear as ever. The manufacturer must be coining money! But he is not, or only in isolated cases. The Bradford papers have been full of failures, and when money is to be made, there are usually plenty of people ready to join in, so we must suppose that trade is really as bad as it can be. That it is worth the farmer's while to hold this season's wool as long as he can we will give a reason for. Newspapers give us market reports too often hashed up, or specially prepared for our consumption; but it is often possible to riddle out the wheat from the chaff. We will quote from last week's wool market report: "The London sales continue remarkably firm, and since the opening on Wednesday last the tendency of prices has been against the buyer, though not quotably above the opening advance. Bradford topmakers on Thursday night put up prices to a level with London, and entered thereupon on a battle, with the aid of the spinner, against the users and the piece merchants. So far it has not been possible to make any real advance, for the merchant is the determining factor in the situation, and he says that the present state of trade will not warrant higher prices. Heavy consumption is admitted, and all that goes to justify the merchants' attitude is the presumably poor purchasing power of this and other countries."

Here is ample material for reflection. Lack of purchasing power is apparently the reason for raw wool being at the low price of 6d. per pound. It is a sad day when the trade of the world is at the mercy of financiers, and the price of English wool seems to depend on the power of English farmers to store it. "The merchant is the determining factor." Here is the middleman with a vengeance. Farmers make too usual a practice of selling their wool as soon as possible after clip day, with the result that practically the whole of our home supply is thrown on the market between June 1 and July 31. It is during this period that the merchants, or, as they are termed, wool staplers, who come round the country districts buying wool, combine with the greatest unanimity to keep prices at as low a rate as possible. It is to their interest to ring prices down as low as possible about this midsummer time, and they do so. As autumn approaches, so does competition for the wool remaining in farmers' hands increase, and values are higher almost without exception. As we have said, most farmers sell their wool about midsummer, but a few make a prac-

tice of selling in September, and they are in all probability fully justified by results.

We have always advocated that farmers should sell their wool year by year, as holding for any great length of time is too ruinously expensive an amusement for them to indulge in; but if merchants this season offer no more than 6d. or 5½d. per pound, there will be so little to lose, and so much to gain, that growers who can afford to keep their wool over will be well advised to do so.

Staplers have always made great use of bad and careless washing as a handle to keep down prices. It is the same with wool as with many other articles; the price of poor quality is apt to rule the price of good. We thoroughly believe in tub washing with soft soap. The soap costs about 6d. for a score of sheep, but the work is so satisfactorily done that it is well worth the extra expense.

The soap should be dissolved in hot water, a quart tin full of which should be poured on each sheep's back after it has been placed in the tub. The latter must be of good size, and an old brewing tub is excellent for the purpose. The soapy water must first be well lathered over the sheep's back, for it is there that much dirt accumulates, especially in windy and dusty weather. Hogs often paw the backs of others which are lying down, and so dirty them, whilst young lambs are very fond of standing on their mother's backs, with similar results.

Professional clippers will all agree how much easier it is to clip tub-washed sheep than those washed in a dyke. The labour is much less, and the shears require much less attention. It is very important that sheep should be quite dry when clipped. They should be put under cover, with an ample straw bed, the night before. How often have we seen sheep quite dry on their backs and sides, but wet under the body, through lying on dirty wet bedding! It is practices like that which get farmers into bad odour with merchants. Fleeces taken off when in such a condition are not fit to keep for even a short time, much less to store for a year or two. No! If we are to keep our wool, we must wash it well, and put it away dry in a dry place. It must be on a board floor, and should not touch outside or damp walls. Care also must be taken to see that the roof is rain-proof.

Work on the Home Farm.

Work is proceeding swimmingly, and everything is couleur de Rose. Six hours' rain the other day was just the thing we wanted to make Barley sowing perfect. Some of the Turnip land of a strong nature turned up a trifle rough, and, drying rapidly, just wanted a soak to make it fall like lime. Drills have been working continuously since, and as Swedes are finished, and sheep off the land, with but three or four acres to plough, Barley will be all in the ground by April 1. On some of our land March sowings are, by the older heads, considered to be too early, but early sown fields have gone through the test of drought so much more satisfactorily that we are fain to try early drilling all round. The misfortune of a poor root crop may thus bring its compensations.

The sound of the roller is heard in the streets, and a cheerful sound it is. The rattle and clang of a passing roller is a sure sign that there is plenty of employment for everyone in the fields. Just now there is more than enough work for the rollers. They are wanted to roll the Barley after the seed has been harrowed in, and every acre of Wheat that has not been rolled is crying out for it. Some must be rolled twice, for it is woefully thin, and has very slender roothold. It must shortly be hand-hoed, horse-hoeing or harrowing would still further reduce the scanty plant. Hoed it must be, for weeds will always fill vacant spaces if they are allowed to do so, and the hoeing will more or less earth up the plants and encourage them to tiller. A slight top-dressing would do good if the land is out of condition, but the dressing must not exceed 84lb of nitrate of soda per acre; 2cwt of salt per acre mixed with it will simplify the operation of sowing, and help to keep off mildew.

The autumn planted Cabbages have stood the winter very well, considering that we had 29deg of frost, but it takes a good deal of frost to kill a Cabbage that has been planted well down to the neck in a plough seam. Winter rains keep washing the soil down into the seam, and few of the Cabbages have not their stems well protected. Weeds are making a strong appearance amongst them, as also here and there a Thistle, so we must have the skerry at work and hand-hoe between the plants. It is remarkable how little progress has been made in the improvement of field Cabbage. We have many fancy names, but the old Enfield Market still holds its own and is most reliable.

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Journal of Horticulture.

THURSDAY, APRIL 3, 1902.

On Fruit Production.



IN writing on the subject the heading of my article introduces, naturally I should like my years and experience to tell; your readers would expect so, too. On the contrary, the spirit moves me to look ahead. I ask your permission, then, to select a problem bounded only by two hemispheres; aye, wide as the world itself. I propose to offer for discussion in the columns of the *Journal of Horticulture* The Fruit Supply of These Islands.

It must be granted, if any excuse were wanted, that few subjects can be more necessary, few more important, more generally talked over in both town and country, and certainly none more complicated and upset by the existing state of our national policy. Well, while it must be allowed, without a moment's hesitation, that with regard to the staple food of the country, such as breadstuff, for the safety and prosperity of our dense population Free Trade must stand, this is by no means the case with so important a commodity as our fruit supply; indeed, I will venture to say it is a reflection on English industry and intelligence that such a lamentable state of things should be allowed to exist, to the annual loss of millions of pounds sterling, which foreigners pocket as the profit of their fruit supply we could grow, and grow better, at home.

Undoubtedly, of late years much has been done by the Government, and here and there by individual enterprise, for the future of fruit production, but on too small a scale, not in touch somehow with the great heart of the nation—not thorough, too academical. The ball is set rolling; notably, an excellent start is made, through the provincial county councils; scholarships offered, series of

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lectures given indoors, manual lessons likewise carrying certificates, and supervised by experts. Notwithstanding, somehow, I repeat, the ball rolls slowly, it cannot be said *Vim acquirit eundo*; the movement does not gain strength. Now, how is this? I suggest, as an illustration, a picture, not accepted by the Academy. My readers boo, eh? Foreground, a few ill-defined objects, and in too bold relief; middle distance, weak, even to vagueness; background, much left to the imagination.

Here I would humbly offer my reasons as to the "why and wherefore" no real progress is being made, and at once refer the one insurmountable obstacle to the well-nigh impossibility of securing land eligible for fruit production, at least on a scale at all commensurate with so important a project. This, I repeat, is the main reason why the movement is not more thorough and extensive, and I will add this has been the opinion for some time of high authorities on such subjects. Only lately, a few weeks ago, I met in my parish Mr. S. Wright, the able superintendent at Chiswick, who happened to be present as judge at one of the County Council's experimental circuits, who mentioned several instances in striking corroboration of my views; one, indeed, so interesting and to the point that, with your permission, I will repeat it. It was the case of a wealthy gentleman from Virginia, U.S., who had come over to England, and applied to him to institute inquiries for the purchase of land on a large scale suitable for fruit production, at the same time stating his intention of residing in this country, and devoting his time and capital to that object. The result proved a complete failure: only three offers of land, none of them satisfactory. The gentleman from Virginia recrossed the Atlantic, and is now cultivating his own fruit farms, where he has incomparably higher wages to give, and in many other respects, especially as regards lower home markets and inferior varieties of fruit, is standing at a great disadvantage from what he would have been in his projected migration.

By a curious coincidence I may be allowed to mention another instance, also on Mr Wright's initiative, which came under my own observation, in the case of an applicant, an energetic young fellow, who after thoroughly learning his business at Rivers' Nurseries, came into Herefordshire to purchase land for fruit production, and who, after wasting several months in personal inquiries, completely failed in his object, and, I hear, is now expending his superfluous energies at the front. These, I believe, to be quite specimen cases out of numbers. The question follows, Need they exist? I maintain they speak volumes against the tyrannous and ruinous system under which a vast proportion of the land in this country is held, where millions of money are lost, and thousands of acres grown to waste, or only within a mere fraction of their value, owing to their restrictive tenure and consequent archaic method of cultivation.

It is to Herefordshire, a typical county as regards fruit growing, I would here more especially confine myself, running Kent very close in this respect, where land is largely held by corporate bodies, as the Ecclesiastical Commissioners, and by charitable institutions, as Guy's Hospital, which, if sold (as the latter are doing in some counties), and eligibly invested, must give an incomparably better financial result: while the land set free can be cropped and marketed far more economically than is being done either in America or Canada, with a capacity of supplying fruit, if the needful opportunities were only given, I had almost said in Herefordshire alone, for the requirements of England. Many false starts doubtless are, and will be, made with us in fruit growing. Land utterly unsuitable not infrequently is chosen; old usages die hard; a more open mind is wanted; indeed, Englishmen, rightly or wrongly, are credited with the characteristic notion that they know everything, and so have nothing to learn from other countries. In point of fact, there is generally noticeable a lack of intelligence and thoroughness, both in organisation and matters of detail, "*ab ovo ad gallinam*," such as planting and pruning, sizing and packing, &c., qualities absolutely essential to success if a popular and regular market is to be created and monopolised.

Now, I ask here, Are not these drawbacks all our own? Need they exist? A crying want appeals to us. It is for us to meet it, and I hold we can meet it. But, then, I can fancy one or more of my readers here objecting. All very well. Your wiseacre is a bit of an optimist, is he not? Takes too much for granted, eh? How about the railways?

Unfortunately, there is a good deal in such an objection. The railways, in their dealings with home commodities, are unspeakably, helplessly incorrigible! But, after all, they but follow in the wake of our State policy, and are more likely to keep lowering their rates to the foreign producers than helping home industries, save in such infinitesimally trivial concessions that we really have to thank them for nothing. They don't see their way. That is the gist of the answer every British fruit producer gets, and seemingly will get. Nevertheless, is it altogether a dream that the railway companies are not beginning to have their ideas on the subject? I fancy I can detect some slight signs of a change, not Jarn-dyce-like, from the East, but from the kindly West. A drift in the current, so long set in, unfavourably for our interests, across the Atlantic. A straw sometimes shows which way the wind blows.

The London and North-Western Railway, usually the pioneer in any important movement, has, I hear, in course of completion at their huge goods station at Crewe, some seventy acres of sidings and goodsheds, &c., equipped with overhead traversing cranes wherewith to pick up goods immediately at the arrival of each train, and there and then to despatch them on their journey, without a minute's needless delay. This, whatever the application afield, I hold to be a healthy sign; at any rate, it will help to remove that diurnal nightmare most business men suffer under, in consequence of the disgraceful uncertainty through delay to which their goods are subjected. I venture to credit this railway company with being wise in its generation. The signs of the times, in the shape of motor goods vans, electric trains, narrow railways, &c., connecting our manufacturing centres, are quite a new, but eloquently significant new, order of things, and all pointing in one direction, though we old folk cannot expect, perhaps, to see further than how it trends, requiring only the hand of time to put into its proper place; sooner or later to inaugurate a breakdown in the monopoly of the railway system; most probably, and far better, to be taken over, like the Post Office and the Telegraphs, by the Government.

Such is the sketch I venture to offer to the readers of the *Journal of Horticulture*. If they, as very probable, consider it chimerical, and beyond their powers to the extent of their being asked to run their heads against a stone wall, I will go back to my first proposition; one, they must grant, depending on themselves, which is, to use the remedy they hold in their own hands in making one long, strong pull and pull together, to reduce, and gradually cut off, the foreign fruit trade by raising at home the abundant necessary supply annually needed. This, I repeat, we have it in our power to do, when the same result will follow in this age of rapid, almost instantaneous, communication, as in the case of other commodities all the world over, viz., that when prices are found to be unremunerative, supply ceases to follow demand. In patience, hope, and perseverance let us possess our souls. *Ne cede malis, sed contra audentior ito.*—HEREFORDSHIRE INCUMBENT.

Ferns for the Greenhouse.

Lygodium japonicum is one of the climbing Ferns, and requires wire, stieks, or string for the fronds to twine round. As the name implies, it is a native of Japan, and is deciduous, losing its foliage in winter. Another variety, *L. seandens*, is evergreen and grows freely, the fronds being light green. The latter is an Indian species. An ordinary compost of loam, leaf soil, peat and sand in equal parts will suit. *Nephrodium molle*, a native of the tropics, but does well in the greenhouse, is frequently met with. It has erect, feather-shaped fronds of deep green colour. The *Polystichums* include some handsome Ferns. *P. viviparum*, 1ft high, from the West Indies, produces gracefully arched fronds. *P. proliferum* is a Tasmanian Fern growing 2ft high, and is one of the most useful. Grow them in loam, peat, sand and charcoal. Being evergreen, they remain constantly attractive, but are especially so when throwing up new fronds. From collections of greenhouse Ferns, *Pterises* must not be omitted. *P. cretica* Mayi is a beautiful green and white variegated kind with crested fronds. *P. c. albo-lineata* is an older variety, but the fronds are not crested, though prettily variegated. The varieties of *P. serrulata* are all beautiful, and among the most useful of decorative Ferns of an evergreen character. Another good basket Fern is *Woodwardia radicans*, a large growing Fern with long drooping fronds, a native of South Europe. It will grow well in equal parts of loam and leaf soil or peat.—S.

Notes on Violets.

I intimated in my previous note that my object in writing these notes was to enumerate some of the difficulties or disappointments met with in the cultivation of Violets. There are some who cultivate their Violets in the proper manner—transfer them to frames in the autumn, and expect them to have flowers all through the winter and spring. They are disappointed, however, to find that during the months of December and January very few are forthcoming. The state of the weather will, of course, have something to do with it.

As a rule, flowers are produced pretty freely up to the middle or end of November. But during the very short, dark days it is hardly to be expected that Violets, any more than other hardy plants, can expand their flowers. In favoured localities, or during unusually mild weather, the case may be different. I mention this because I have often been asked why Violets do not flower all through the winter. Violets are impatient of forcing, and if subject to too much heat will develop foliage at the expense of flowers. To obtain the best results it is necessary to have the plants in a light greenhouse and near to the glass as possible. Sufficient heat must be afforded to maintain a temperature of 45deg to 50deg, with abundance of air, unless it is very cold or foggy.

The Violet does not appear to have as many enemies as some plants we cultivate. In some localities and soils red spider causes much injury during the summer and autumn months, and is worst during a very hot season. Damping the plants overhead every afternoon or evening will act as a preventive, but it often becomes necessary to adopt more stringent measures—spraying with some approved insecticide, or dusting with soot and sulphur mixed. When the leaves begin to turn yellow it denotes the presence of the enemy, and remedial measures should be taken at once. The old adage holds good here, "A stitch in time saves nine."

Some writers say that this pest is the greatest enemy the Violet plant has. My own experience is rather different, and judging by what one reads, especially in the correspondence columns of the gardening periodicals, what is known as the "damping disease" (*Puccinia Violæ*) appears to be the greatest difficulty in the cultivation of this favourite flower. In some instances it appears to be due more to local influences, and then is more difficult to deal with. This disease has been very destructive here; for several years we could get no flowers after November. The plants would commence going off about that time, and some seasons have died outright. The frames have been stood in different parts of the garden—all to no purpose. Different kinds of soil have been tried, lumps of lime put in amongst the plants, lime and sulphur mixed dusted over them, charcoal strewn in between and around the clumps.

All this, however, was not sufficient to stop it, so other methods had to be given a trial. I might, perhaps, say, that fresh stock had been procured time after time from different sources, and where the disease never made its appearance.

It is the usual custom to put Violets in frames in which Cucumbers or Melons have been grown during the summer, or to make small beds especially for them. This material holds the moisture, and perhaps may be one cause of the damping disease. For the last two or three years we have tried a different plan. The frames are stood upon bricks, this leaving about 3in of space above the ground line, so that the air can circulate underneath. They are then filled in with clinkers from the fires up to within about a foot from the top, a little long litter is spread over, to keep the soil from falling amongst them, and about 6in of soil on the top.

The soil used at this time was made more porous than usually by adding lime rubbish in the form of small lumps. When the plants had been transferred to the frames a fortnight they were sprayed over with sulphide of potassium, $\frac{1}{2}$ oz to 1gal of rain water, and every ten days or a fortnight subsequently until fine weather came in the spring. This new treatment answered very well, for although the disease put in an appearance it did not cause much injury, and we had a nice quantity of flowers. This was three years ago; the next year the same treatment was given, with better results. Last year the spraying was discontinued, but very little disease was apparent.

Although last summer was so very hot and dry, especially in this neighbourhood, our plants grew into the finest clumps that we ever had. Until the first week in February the plants were clean, when the disease appeared rather suddenly. During this week we experienced very cold east winds, and it almost led one to think this might be the cause. There has not been very much written about this disease, and I feel sure if our old friend Mr. G. Abbey, or some other correspondent, could give a little more information on the subject, it would be welcomed by other readers as well as myself.—J. S. U., Yorks.

(To be concluded.)

NOTES & NOTICES

Horticulture in Sheffield.

The programme of meetings arranged by the Sheffield Floral and Horticultural Society from now till October includes essays on Pelargoniums, Calceolarias, the Fuchsia, Vines, Dahlias, and Chrysanthemums, and at each of the monthly meetings prizes are offered for exhibits of plants. The meetings are held at Porter Cottage, Sharrow Vale. The secretary is Mr. W. Lewendon, 93, Neill Road, Ecclesall Road, Sheffield.

The Southern Counties Carnation Society.

The fourth annual report (1901) comes to us from the hon. secretary, Mr. Wm. Garton, jun., York Buildings, Southampton. It describes a prosperous past year, the exhibitions being well supported. A balance of £68 3s. 2d. remains in hand. The fifth annual exhibition will be held in Southampton about the third week in July. In the annual report there are a number of letters from authorities on Carnation culture.

Sale of Dwarf Trees.

A number of Japanese dwarf trees, and a collection of miniature British and foreign woodland scenes, belonging to Mrs. Ernest Hart, were recently offered at auction by Messrs. Knight, Frank, and Rutley, Conduit Street, London. Several dwarf Cedars sold at good prices. One, which was catalogued as 100 years old, with thick twisted trunk and well-balanced branches, fetched £20. A second, also 100 years old, and measuring 22in in height, was sold for £14 14s. The demand for miniatures was less brisk; the prices obtained ranged from £6 6s. to £3 3s. Several lots were purchased on behalf of Royalty.

Shakespeare and Crocuses.

Apropos of the remark the other day (says the "Daily Chronicle") as to the absence of all mention of the Crocus in Shakespeare, a correspondent says that it is known for a fact that this spring flower did exist in England in Shakespeare's time, because Gerard, a contemporary of his, describes it. "That pleasant plant," he says of the Crocus, "was sent unto me from Robinus, of Paris, that painful and most curious searcher of simples"; and he describes it elsewhere as having "flowers of a most perfect shining yellow colour, seeming afar off to be a hot glowing coal of fire." Of course, if Shakespeare had been Bacon, he might have read the science jottings of his day.

Royal Horticultural Society.

The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, April 8, in the Drill Hall, Buckingham Gate, Westminster, 1 to 5 p.m. A lecture on "The Construction of Pergolas, and on Plants for Them, and for Verandahs," will be given by Miss Gertrude Jekyll, V.M.H., at three o'clock. At a general meeting of the Royal Horticultural Society, held on Tuesday, March 25, fifty-two new Fellows were elected, amongst them being Sir Edmund Hay Currie, Sir George Meyrick, Bart., the Dowager Lady Pelly, Lady Jessel, Hon. Mrs. M. Glyn, Major N. Pochin, and Major A. J. Saunders, making a total of 357 elected since the beginning of the present year.

Border Estate Changes Hands.

In Messrs. Dowell's auction rooms, Edinburgh, recently, the estate of Sydenham, and other properties near Kelso, belonging to Sir John Dickson-Poynder, were put up for sale by public roup. The estate of Sydenham, with mansion-house thereon, and including the farm of Sydenham, extending to about 146 $\frac{1}{2}$ acres, was put up at the price of £10,000, and was sold at that figure to Sir Richard Waldie Griffith. The rental of the estate is £337, and the public burdens £32. Sydenham lies well into Sir Richard's Hondersyde estate, and will make a desirable addition thereto. No offer was made for the other lots, including the farm of Kaimknowe, the house and lands at Sydenham Cottage, and various fields and feu-duties in Kelso.

The late Mr. Wm. Cutbush.

We have been asked to state that Mr. William Cutbush, the person who died in Highgate recently, and whose decease was notified in our issue of March 20, was in no way connected with the horticultural trade.

Weather in the North.

On four mornings of the past week frost ranging from 2deg to 8deg was recorded. The aspect of the morning of the 26th was quite wintry, as a considerable shower of snow had occurred during the previous night, but this soon disappeared. Cold winds have been frequent, dull rather than bright days have predominated, and cold sleety showers and rain have made the last eight days frequently unpleasant. April opened bright and cold.—B. D., S. Perthshire.

Fritillaria askabadensis.

On the opposite page we illustrate a new species of early flowering *Fritillaria*, named "askabadensis." This was exhibited by Miss Willmott of Warley Place, Warley, Essex, at the meeting of the Royal Horticultural Society, in the Drill Hall, Westminster, on March 25. The pale yellow flowers are very sweet and beautiful, though not showy, like some of the varieties of *F. imperialis*. We have previously described the species thus:—"Flowers in whorls of eight or nine of a greenish yellow colour, on stalks 3in long. The stems are fleshy and thick." In a forthcoming issue we may be able to furnish information as to the country of its origin and other data connected with this novelty. An Award of Merit was accorded to it.

Tree Planting at Eynsford.

Thanks to the kindly interest and energy of Mr. E. D. Till, of The Priory, Eynsford had its Arbor day on March 8, and the event created a great deal of interest. The trees were planted by the side of the field opposite Mr. S. Gibson's house, and they formed a memorial to the late Queen. The holes for the trees were all dug by voluntary effort, and by representative Eynsford families, such as the Bookers, Burkes, Baldwins, &c. Messrs. Cannell's men planted them in accordance with Mr. Till's plan. Mr. Till states that the row of trees planted will be made public property by making over to the Parish Council sufficient ground on the western or field side to admit of a good pathway about 300 yards long.

100 Tons of Flowers.

Our headline refers to the quantity of cut flowers stocked in Covent Garden Market on Saturday last, the day preceding Easter Sunday. The floral section of the market was a bee-hive of activity from daylight until late in the forenoon. Clergymen, Sisters of Mercy, hospital nurses, and representatives of charity organisations were very numerous. The "Evening News" in a report said: "From several of the great growing centres record supplies were on hand. The Scilly Isles alone contributed forty tons of cut flowers. Big consignments, all beautifully fresh, came from the Channel Islands, from Hampshire, Lincolnshire, and various south-coast centres. The best gardens of Twickenham, Mitcham, Swanley, Ware, Seabrook, and Putney were also laid under contribution. Blooms from France, especially Orange blossom, fetched excellent prices. The quality of the Arums was not uniformly high, yet they realised from 3s. 6d. per dozen for small and comparatively poor blooms to 6s. for first-class. Narcissus, offered in cases containing nine dozen bunches, sold at 13s. the case. Single dozens of the 'Pheasant's Eye' variety realised from 2s. each. Beautiful Roses in endless profusion found a ready sale, the best changing hands at as much as 6s. per bunch. Lilies of the Valley went at 2s. per bunch, while *Spiræa* blooms ruled rather low. For Hyacinths in pots 6s. per dozen was obtained, and the price paid for cut sprays was anything between 6d. and 2s. per dozen. White Lilac was scarce, consequently the consignments from France were disposed of at very high rates. The supply of Daffodils was more than enough to satisfy requirements. Marguerites, sold by the gross, brought 6s., and abnormally high prices were realised for extra good white Azaleas. Altogether prices were well up to the high Easter average, and the auctioneers were quite pleased with their heavy morning's work."

Ipswich Gardeners' Society.

The meetings of the second session, 1902 (held in the Co-operative Hall, Carr Street) are as follows:—April 3: "Stove and Greenhouse Climbers," by Mr. E. Creek, Westerfield House Gardens; May 1: "The use of Chemical and other Manures in the Fruit and Kitchen Garden," by Mr. F. Shrivell, F.L.S., F.R.H.S., Tonbridge, Kent; June 5: "Flowering Trees and Shrubs," by Mr. R. C. Notcutt; July 16: Visit to the Nurseries, Woodbridge, by the kind invitation of Mr. R. C. Notcutt; August 16: Visit to Felixstowe and the Lodge Gardens, by the kind permission of Felix Cobbold, Esq.; September 4: "The Potato; its Origin and Character," Mr. A. Sowman, Horticultural Lecturer, E.S.C.C.—W. E. CLOSE, Hon. Sec., Holy Wells Gardens.

Woodland Ferns.

The recent sentence of two months' hard labour on a man at Exeter for stealing Ferns from woods, does not, says a daily paper, seem to have put a stop to the practice. It is still being carried on in parts of Cornwall. Whilst steps are being taken to stop the Fern gatherer, nothing is said to those who gather Primroses and Daffodils for the up-country markets. In Cornwall Primroses and Lent Lilies are now growing thickly, but in many places they are gathered as soon as they appear and sent off by rail. The Cornish hedgerows in the spring are not now the perfect pictures they used to be. In many cases the Primroses are gathered by poor children employed by the dealers, and, perhaps, no great harm is done, for it puts a few shillings in the way of parents, many of whom are often out of work.

A Patent Potato Planter.

Emerson once remarked that there would be more tillers of the soil if the work could be brought breast high. To obviate stooping in planting Potatoes, the Hon. C. Jervis, of Sutton-on-Derwent, brother of Lord St. Vincent, has invented an extremely novel appliance which not only does away with backache, but enables a man to set with Potato seed more than two acres a day, setting each tuber in the exact spot required. The appliance, which the inventor has named the "Jervis," is only 6lbs in weight, and with it the Hon. C. Jervis has himself planted over two acres in a day, planting 1 ton 2 cwt of Potatoes, including cut ones, which are admittedly hard to deal with. It is stated that the implement never misses, and places each Potato at exact distances apart. The complete cost of the apparatus is only a guinea.—("Yorkshire Herald.")

The Cherry House.

When the trees are heavily laden with fruit the demand for nutriment is considerable, the trees being less vigorous than those with few fruits, and, though having less foliage, they elaborate considerable nourishment by the fruit, hence are benefited by the application of liquid manure, while vigorous trees with little fruit should have water only or a manure of a phosphatic, potassic, and magnesian nature, rather than nitrogenic, in order to induce a fruitful habit. A good supply of water or liquid manure, as most suited to the requirements of the trees, should be given as often as required, always before the soil becomes too dry, but never to render the soil sodden and sour by needless application. Inside borders are most suitable for trees subjected to early forcing, as they afford a better temperature, more corresponding to that in which the trees are growing, and rendering the progress of the crop more certain and satisfactory, as in the case of trees in pots, provided due regard be paid to affording the needful supplies of water. Attention to ventilation and temperature is imperative, admitting air from 50deg, and liberally at 65deg. Syringe the trees twice a day, and keep the border damped when it becomes dry. Of course, syringing must cease directly the fruit commences ripening, or it will crack and be spoiled. When the shoots have made four or five joints they should have the points taken out so as to form spurs, but those required for furnishing the trees ought to be tied in position early, and be carefully trained in their full length. Aphides must be kept under by repeated fumigation, as if they obtain a hold they are not only difficult to exterminate, but spoil the appearance of the fruit.—A.

The Clematis: Its Culture and Uses.

To the ordinary gardening amateur, looking through the Clematis section of a florist's catalogue is a source of perplexity. It is not only that there are so many species and hybrids, one catalogue enumerating at least eighty, but these are divided into various sections, the principal object of which division appears to be, so far as the ordinary gardener is concerned, to keep those together which need similar treatment in pruning. It is quite as important, when selecting plants, to know those which are vigorous and rapid climbers and those which grow only a few feet; and yet a catalogue, which is very careful in the arrangement of its sections, simply describes *Clematis flammula* as "small white, very sweet," and *C. integrifolia* as "bluish violet," while the important fact that the former is a vigorous grower and rapid climber, while the latter only grows 2ft or 3ft high, is quite ignored. To deal with all the species even, to say nothing of the hybrids derived from these species, would be impossible in an article of such necessarily limited length as this, and the aim here is simply to give some guidance to the amateur as to the culture of the Clematis, some of the best of the hardy sorts, and the different uses to which they can be put.

The culture of the more vigorous and hardy sorts is, on most soils, fairly simple, but attention to certain wants is necessary to get the best results. To start with, the ground should be deeply trenched and heavily manured, a good dressing of basic slag at the rate of 10lb to the twenty square yards being well mixed with the lower soil. The Clematis is a very gross feeder, and the richer the soil the better it likes it, in fact it is almost impossible to make it too rich. There must be a sufficiency of chalk in the soil to get the Clematis to perfection, and if the soil is poor in this respect it will be advisable, in addition to the basic slag, to dig in some lime or chalk. In whatever soil this climber grows, after a few years it tends to exhaust the soil in its immediate vicinity of its original store of this food, and it will then be greatly benefited by the application of a dressing of it, in the form of lime or chalk if it can be easily got, or in the form of basic slag, which latter is very helpful in any case, as the soil gets poor in phosphates as well as in lime. A good coating of rotted manure and leaf mould round the roots every autumn will add to its luxurious growth, and lessen the risk of destruction by an exceptionally severe winter.

As a rule a fairly open situation is necessary for success, the leaves often being spoilt by mildew in the late summer in a shady position, while the winter is the more likely to do damage. As an additional precaution, besides the manure and leaf mould round the roots some bracken or garden cuttings might be tied round the lower part of the stem in winter, not only to protect the stem itself from frost, but to save some of the early shoots, which appear as early as February in a mild winter. The Clematis repays liberal treatment as well as anything in the garden, both in the vigour and rapidity of its climbing and in the size and abundance of its flowers.

To make a selection of sorts is a difficult task, and the catalogues tempt one to court failure by their alluring descriptions. One fact should always be borne in mind, and that is,

that many, if not most, of the hybrids are grafted, principally on *Clematis viticella*, and it is little exaggeration to say that the plants of these, in many soils, die off like flies. It is often the more disappointing, as they grow so well for one season, or perhaps two, and so raise false hopes, and then, after the second or third season, when we feel that they are getting well established, they fail to show any sign of life in the spring. For this reason, only those sorts will be noticed which can be fairly well depended upon.

The old purple Jackmanni (*J. purpurea*) has given its name to the most useful section of Clematis as regards the ordinary amateur. Jackmanni superba is an improvement upon the type in many respects, being larger flowered and of a deeper colour. Jackmanni alba, as hardy and as reliable as the old-fashioned purple, is often bought for a white one, and disappointment results, as it is tinted with purple, though becoming whiter as it gets older. It has the peculiarity, when it grows very vigorously, of producing some early blooms in May of enormous size and very double, a multiplication of the petals taking place at the expense of the stamens, and, apparently, of the absorption of the whole of the energy of the shoots which bear them, as a shoot which produces one of these grows no more during the season and sends out no lateral shoots. This is an excellent variety where vigorous growth is wanted, as it will grow 20ft or more in a season—but it is not a white one. A very fine Clematis of this same section is Madame Edouard André, which is bright velvety red, a very rapid grower, hardy, and a free bloomer. There seems to be little difficulty in growing it, and the wonder is that it is not more general. The method of flowering is similar to the purple Jackmanni.

There is also Jackmanni nivea, a snow-white Jackmanni, which is excellent in some places, producing a profusion of pure white blossoms. All the varieties of this section we have been considering may be cut back to 2ft or 3ft of the ground in the early spring, though some recommend doing this after the flowering season is over. Spring pruning has the same to be said in favour of it as the spring pruning of Roses. The early young shoots which the Clematis pushes forth are generally upon the upper part of the growth which has survived the winter, and if these get cut off by some severe March frosts, as not infrequently happens, it is of no consequence, as the wood which has produced them will itself be cut off by pruning at the beginning of April. The strong shoots which will be wanted for the summer growth are thus kept back till they can with safety be pushed forth. In this section all the flowers are produced on the growth of the current season, and the stronger this growth is the better and more abundant are the blossoms. Some even cut the plants down to within a foot of the ground, which treatment though too drastic for many is not unattended with success.

Another Clematis which is sometimes included in the section we have been considering is the *C. flammula* referred to above, a vigorous and handsome grower, with fine dark green leaves which keep green well into the winter. Though the flowers are small yet, as they are creamy white, they are showy, and they have the recommendation of being very fragrant, which gives the plant its poetic name—Fragrant Virgin's Bower par excellence, though the name without the qualification properly belongs to the whole genus.—A. PETTS.

(To be continued.)



Fritillaria askabadensis.

(See page 292.)



Lælia Digbyano-purpurata var. **King Edward VII.**

On page 295 there is an illustration of one of the most handsome Orchids the firm of Messrs. J. Veitch and Sons, Limited, Chelsea, have yet offered. We have previously described the variety (page 241, March 13, 1902), where we said: "This is one of the most astonishing and beautiful varieties of the Digbyana crosses now in the possession of the growers. The lip is about 5in deep, and almost as broad, being bent down in front and exposing a wide surface. The fringed edges are lilac purple, but the colour deepens greatly towards the centre. The open throat is greenish or creamy yellow, a soft and pleasing colour. The sepals and petals are long and narrow." Mr. Shayler's sketch, on the page named, aptly depicts the noble form of this splendid acquisition. It is, as the "Gardener's Chronicle" remarks: "Progression seems to have carried this remarkable hybrid almost out of touch with the others of its parentage." When shown before the Orchid Committee of the Royal Horticultural Society, on March 11, it received a First Class Certificate.

The Week's Cultural Notes.

As the roots of newly planted specimens commence to run in the new compost, the water supply must be gradually but sensibly increased. There are some plants, such as *Pleiones* and deciduous *Calanthes*, that need none after repotting, but these will be rooting now, and a little coaxing by means of gentle waterings is necessary. Heavy drenches of water have a contrary effect, rendering the compost sodden and cold, unfit for the tender young roots and spongioles to enter.

Even the coarser rooted roots object to the heavy soakings of water often given, and it is well to remember that roots are not made by moisture but put forth by the plant to look for it. *Dendrobium nobile*, though one of the easiest of Orchids to cultivate, is often badly checked by the same circumstance, though in a different way. The tender young shoots at the base of the old growths damp off wholesale where the plants are over-watered, in consequence of which back breaks have to be depended upon for carrying on the economy of the plant. Bright bursts of sunshine following a dull period usually cause this damping to be more apparent, but the true reason lies in the superabundant moisture.

The scandent flowering *Oncidiums*, such as *O. macranthum* and its allies, are taking large supplies of moisture now. Besides the bulbs which are forming, the immense flower spikes that these Orchids produce are out of all comparison with the size of the plants, and a great strain upon their energies is the outcome. To further weaken them by withholding a due amount of moisture will prove fatal to the strongest plants. While on the subject of these beautiful Orchids I would like to call attention to their handsome and natural appearance, when the spikes are allowed to trail about the stems and leaves of Palms or large Ferns quite loosely. It is out of all comparison with their usual appearance as seen twisted round three or four stakes placed in the pots. They must, of course, be allowed to open their flowers where they are to remain, or the proper and natural poise of the blossoms is spoilt.

The weather during April is always treacherous, and great care is necessary with the ventilation, to avoid chilling draughts on the one hand and a close, stuffy atmosphere on the other. There are days when the sun is shining in conjunction with a chilly wind, when one is forced to shade more than is good for the plants, and damp the houses freely, simply because the first upward movement of the top ventilators lets in a rush of cold air that chills the plants. Constant care and watchfulness on the part of the grower is absolutely necessary, for though a day's heavy shading now and then may do no great harm, weak and attenuated growth will assuredly follow its regular practice.—H. R. R.

Lælia anceps **Simondsii.**

(O. R. 1901, 50.) Orchidaceæ. A variety in which the flowers are pure white except for slate blue lines on the disc, and a few small bluish spots on the front lobe. (H. F. Simonds.)—("Kew Bulletin.")

Phaius simulans.

(O. R. 1901, 43, 52.) S. The epiphytal species known in gardens under the name of *P. tuberculosis* is not the original plant, and has been renamed *P. simulans* in allusion to the remarkable resemblance which its flowers bear to those of the original species. [The plant figured in Bot. Mag. t. 7307, under name of *P. tuberculosis*, is *P. simulans*.]—("Kew Bulletin.")

Plant Hybridisation.

There was a good attendance at the meeting held in connection with the Devon and Exeter Gardeners' Association at the Guildhall, Exeter, on the 26th ult., at which a paper was read by Mr. George Lee, gardener, Upton Leigh, on "Hybridisation, and its Bearing on Practical Gardening, Botany, and Commerce." Mr. Lee said it was true that science could never obviate the necessity for a practical acquaintance with the operations involved in the carrying on of plant culture. The early growth of horticultural science was very slow indeed, and did not afford any distinct light to gardening until the nineteenth century. In much earlier ages there were surmises, born of inquiring minds, that were strangely in accordance with the results obtained by modern researches in vegetable chemistry and physiology. For instance, Pythagoras forbade the use of Beans as human food, because there seemed to be something in their composition akin to human flesh. A Greek philosopher named Empodocles was also bold enough to assert that plants were sexual, and that they possessed life and sensation. He (the speaker) had yet to learn that these were more than surmises, but the light of the latter-day scientific researches had revealed to them the fact that they were guesses that happened to savour strongly of a great truth. Theophrastus and Pliny wrote largely on plant life, but not with more knowledge of their physiology, and little or no progress was really visible until the sixteenth century was well advanced. Grew and Malpighi, who devoted themselves to an anatomical examination of plants, were followed by Linnæus and Gertner, who, trusting only to the dissecting-knife and the microscope, soon precipitated into ruins all the fanciful fabrics of the Aristotelians or guesses at truth. They were the founders of that science of vegetable physiology which, enlarged and carried into practice by the late Thomas Andrew Knight and others, had advanced horticulture to a degree of improvement undreamed of by their immediate predecessors. There was another branch of scientific gardening to which he desired to draw their attention. That which was called "Hybridisation"—a branch of horticulture which had made rapid strides toward perfection during the last two or three decades. The raising of new plants was an industry of increasing importance for the improvement of groups of flowers, fruits, or vegetables, upon which special attention was bestowed. There was really no limit to the productions of the hybridist, and without his labours gardens would be shorn of much of their present interest and beauty. There were about 150 cultivated species of the *Begonia*, exclusive of garden hybrid and varieties, and their prettily marked foliage and free-blooming nature had long marked them out as a favourite garden plant. During the last thirty years of the nineteenth century a new race, characterised by a tuberous rootstock, annual herbaceous stem, and large handsome flowers, had been introduced from South America, from which, by means of careful cross-fertilisation and selection, a large hybrid of great beauty and incalculable usefulness had been raised. The Orchids are another great and interesting class of plants, and during the first half of the last century collectors ransacked the world in search of new species and new genera, and sent them to Europe; while botanists at home were busy with these new treasures, dissecting, bisecting, and comparing, so as to classify and name them. In the middle of the century a new light arose in the person of Charles Darwin, naturalist, whose scientific researches and experiments, given in his work on the fertilisation of Orchids, created a new interest in the world, and gave an impetus to a noble work, the scope and magnitude of which was still far beyond the sweep of mental vision. From that time a band of hybridists started upon a great work, mostly with trepidation and uncertainty, but with a strong desire to people the world of flowers with new inhabitants, born into the world through the means of hybridisation. As a result the harvest now of Orchid hybrids was rich and plentiful. Nothing in scientific agriculture had attracted more attention throughout the world in the last ten years than the raising of new breeds of Wheat in America, and other Wheat-growing countries. It had been demonstrated that these new Wheats would increase the present yield of Wheat in the regions to which these particular Wheats were adapted by four bushels per acre. If that could be accomplished in the United States alone that would add over 180,000,000 bushels per year, worth at a low valuation over £28,000,000. These facts and figures gave some idea of the importance of hybridisation in the supply of human food, and in its bearing on the commercial world.—("Devon and Exeter Gazette.")

The Queen's Violets.

In the Royal Conservatory Gardens in Windsor Great Park a specially fine specimen of double Violets is being grown, which has gained the enthusiastic approval of the Queen. Her Majesty has said that she has seen none finer, and bunches are frequently forwarded to her. Each flower (says the "Daily Mail") is very large, and of a beautiful colour.

Hardy Bamboos.

The transformation that has been effected in gardens during the last ten years through the inclusion of large numbers of trees and shrubs hitherto but imperfectly known is very marked, especially where a leading feature has been made of hardy Bamboos. In the garden they are conspicuous by reason of their distinct habit and appearance, there being no other plants to serve as a connecting link between them and other shrubs. After the stiff and formal appearance common to many gardens by

dirtied, while December and January's winds and frosts make no appreciable difference to their appearance, and it is not until the cold east winds of February and March put in an appearance that the leaves take on a rusty hue.

Arundinarias.

The numerous species, with their varied characters, offer a wide selection, in which the most fastidious may find something to please him, whilst a lover of them as a whole would be hard put to to say whether he preferred the stately, upright branches of *Arundinaria Simoni*, the dwarfer shoots of *A. anceps*, the graceful branches of *A. nitida*, the pendant wand-like shoots of



Lælia Digbyano-purpurata var. *King Edward VII.* (See page 294.)

reason of closely pruned Hollies or Laurels, stiff looking Aucubas and Conifers, and other things, the light and feathery plumes of the Bamboos came as a relief, and the result has been to relieve many a shrubbery of its stiffness, and also to give to lawns innumerable quite a tropical appearance by a judicious system of massing, and to provide a rival for the Weeping Willow for clothing the banks of streams and lakes.

In addition to their being used in conjunction with other shrubs for general effect, Bamboos are peculiarly adapted for planting together, so as to form what is popularly termed a Bamboo garden. These gardens are now found in many places of note, and are particularly beautiful in midwinter, looking fresh and green when everything else is at its worst, for although throughout summer the beauty of Bamboos is very noticeable, it is perhaps in the dreary winter months that they are most fully appreciated. The foggy days of November do not appear to dirty the Bamboos to the same extent as many other evergreens are

many of the *Phyllostachys*, or the large, distinct foliage of *Bambusa palmata* to anything else.

Conspicuous among the many hardy species are the following: *Arundinaria anceps*, a pretty, graceful habited species, quite distinct from anything else. It grows about 7ft or 8ft in height, and suckers freely. In loose ground the rhizomes spread to a considerable distance from the parent clump, and in a few years from planting handsome colonies are made. This Bamboo is particularly well grown at Orwell Park, Ipswich. There the Bamboo garden is situated in a shallow valley, through the centre of which a stream runs. The soil is light and rich and covered with a good turf. The Bamboos are planted in the turf and allowed a certain amount of freedom. In this position *A. anceps* is quite at home, and is the most striking of all the Bamboos cultivated there.

A. Hindsii.—Very distinct in habit and foliage is this. It grows from 9ft to 10ft in height, and the stems are peculiar by

reason of a waxy bloom which covers them, especially when young; the leaves are 6in or 7in long, upwards of $\frac{1}{2}$ in wide, and very dark green in colour. A variety known as *graminea* is in cultivation. It is of the two the most ornamental, the habit being better and the leaves as long and narrower.

A. japonica.—Perhaps the best known of all hardy Bamboos. It has been known in gardens for upwards of fifty years, and is variously known under this name and *Bambusa Métaké*. It grows 11ft or 12ft high, and makes a dense mass.

A. nitida.—An Indian species of very effective appearance, and spoken of by many people as one of the most elegant of all hardy Bamboos. It makes long, thin, arching branches, clothed with dainty, narrow leaves. From the slimmness of the purple stems the least breath of air puts the whole of the leaves in motion, and it is rare to catch the leaves in any way still.

A. Simoni.—A stately plant, rising with straight stems to a height of 18ft or 20ft. Like aneeps, this has a habit of spreading quickly and making picturesque colonies of young plants. Grouped with others it is an invaluable plant.

Bambusa and Phyllostachys.

B. palmata.—In this species we have a very distinct and ornamental plant. It grows from 7ft to 8ft high, making a dense mass of shoots clothed with handsome bright green leaves 7in to 8in long by 2in in width. Its distinctness warrants its inclusion in every collection.

B. pygmæa.—Of the dwarf set this is possibly the most useful. It grows from 12in to 18in in height, and quickly makes a dense carpet. It is a very useful plant for undergrowth.

The *Phyllostachys* stand conspicuous among hardy Bamboos by reason of their glossy green stems and graceful arching habit. For specimen plants they are peculiarly adapted, the branches rising in a dense mass without giving any appearance of stiffness. By far the greater number of hardy Bamboos belong to this genus, and of the number the following call for special attention:

P. aurea.—A sturdy species with upright branches. *Castillonis*, an elegant species with variegated stems and often variegated leaves. The variegation of the stems is curious, the whole of the stem, with the exception of the flattened part between the nodes, being yellow, the flattened part bright green.

P. flexuosa is another elegant habited species. *Henonis* is one of the very best, growing 18ft to 20ft in height, and having a light, graceful appearance. *Mitis* and *Quiloi* are both worth growing. They resemble *aurea* to a great extent, and are strong growers. *Nigra* is distinct by reason of its purplish black stems, and *ruseifolia* by its dwarf habit and short, wide leaves. This rarely exceeds 2ft or 2½ft in height.

P. viridi-glaucescens brings up the rear, and is one of the very best, especially for a specimen plant. The branches are long and arching. They grow in a dense mass, but by their arching nature are relieved from any appearance of stiffness. Single plants of this are to be seen upwards of 15ft high and 30ft or more across.

In addition to those mentioned, there are very many more species, each of which has its own peculiar merit, and in places where Bamboos are in favour no species should be missing.—
W. DALLIMORE.

Gadding and Gathering.

"HERE AWA', THERE AWA'."

A considerable amount of planting has been undertaken again during the past season by the Earl of Ilchester's head gardener at Holland House, Kensington. It is well known that the Rose Conference of the Royal Horticultural Society will be held there on June 24 and 25 next, when the noble Earl has, with his usual generosity, kindly consented to open his beautiful gardens to the visitors on that occasion. Besides the improvements by liberal planting of trees and shrubs, Mr. Charles Dixon is propagating 5,000 extra bedding *Pelargoniums* with which to bed-out the splendid old Dutch garden on the west side of the house. With a dry season one can prophesy a gorgeous glare and rich effect in this, the formal flower garden. A new bridge, similar to the one already existing, is to be erected in the present Japanese garden, and extensive alterations are being made in the lower grounds of this feature of the Holland House estate. It will be remembered that these gardens were described and illustrated in our Spring Number a year ago (March 14, 1901). When on a visit there about three weeks ago, I was surprised to see both pheasants and a wild hare coursing in and out among the great luxuriance of shrubs, hedges, and plant groups. It must be borne in mind that Holland House is well within the bounds of London county.

Regent's Park Gardens

While referring to the rural-like scenic aspects of Holland House in Kensington, the mind of the London horticulturist reverts to the gardens around Regent's Park. I do not mean the Royal Botanic Society's grounds, but the residences of the Earl of Bute at St. John's Lodge, Miss Adamson at South Villa, and at The Holme. Of these three places, that of South Villa, where Mr. Geo. Kelf is in command of the gardens, is the most interesting from the garden-lover's point of view. This estate of eleven acres lies only four miles from Charing Cross. It is open, and receives a large share of London sunshine, but, standing high, and having an ornamental lake (belonging to the public part of the park) on the outer slopes of the western boundary, the drought of the brakes and borders during summer is usually severe. In order to screen the interior of the kitchen garden from the public gaze on the Inner Circle (one of the cycling roads of the park), a moderately high bank has been thrown up, and planted at the top with a hedge. A low retaining wall being built at the edge of the gravel walk on the inside, part of the bank slopes evenly backward at a convenient angle, and affords a useful border for early supplies of vegetables in spring. Within doors the Peaches and Vines at this season are breaking well, and flowering most satisfactorily, and during the coming season we may again expect to see Mr. Kelf's handsome productions on view at the Drill Hall in James Street. There are some splendid fruit and plant houses. The lawns are extensive and well kept. Within recent times Mr. Kelf has begun to cover the ground beneath the specimen lawn trees with Ivy, a practice that always tends to improve the appearance of the garden. That London is a sooty, smoky place, however, is undeniable, even though there are thousands of acres of open spaces. On the surface of the "lake," or ornamental, winding sheet of water, skirting three sides of the garden at South Villa, on the occasion of my call, just after the recent frost had given way, there was a thick, dark scum of soot over a very large area of the water. Seeing's believing; yet it is hard to imagine that six tons of soot to the square mile are deposited on London during one foggy week!

Messrs. Wood and Son, Wood Green.

Possibly, in many cases the local seedsman is able to supply the gardens of the neighbourhood with the majority of horticultural sundries that are constantly required in gardens, great and small. But while this is true, there are times and again when certain needful articles not stocked by the ordinary nurseryman have to be got direct from the sundriesman, and as specialists in this branch of the horticultural trade, the name of Wood and Son is now a household one. It is not so many years since this firm started at Wood Green in the north of London, but as our readers know, they have consistently brought forward various inventions, either improvements on garden tools and instruments, or entirely new productions of a totally different nature, such as their "Veltha," to enable the gardener to combat plant diseases, and these articles, being patented, are only to be obtained direct from them, as the manufacturers. On a recent visit to the establishment I was shown a number of new introductions for the present season, and of these the following lines principally deal. First on view was a new spiked turf maul, which is intended to be used on ground, and lawns especially, that have become hard and caked on the surface. This turf-maul is used like a turf-beater. It is strongly constructed of well-seasoned oak, perhaps 18in square and 5in to 6in deep, the galvanised spikes being 3in or 4in long, and about as thick as a pencil and pointed. These spikes, of course, are on the under surface of the oak-wood block, and stick out like the spikes on a sprinter's racing shoes. By beating or clamping the surface of lawns or ground with the maul, the spikes pierce the hard surface, whence the top-dressings of soil or fertilisers that may be applied fill up these holes and so ensure the better renovation of worn-out ground. More than this, the maul can be used to pierce holes on hardened lawns previous to watering them with a sprinkler or hose. How many gallons of precious water is lost every summer in scores of gardens, through its running off the surface without even thoroughly wetting the top half-inch? Messrs. Wood's turf maul in this respect has very decided advantages, which even the least thoughtful will at once admit. We trust the patent will be largely put to the test.

Then there is an improved hand-barrow for conveying plants, grass, leaves, or rubbish. The ordinary hand-barrow is never used, so far as I am aware, for grass or leaves, and it may be accepted as one of the merits of the improved form, that it can be put into use for this purpose by the addition of side-boards. During one of the frosty days in the winter now past, it chanced that a load of forced plants had to be conveyed from the pits to the show-house included in a large public garden within the environs of London. There was no protection afforded to the plants during their short transit (about 400yds), and they were conveyed on an ordinary hand-barrow. What was the result? What that was became apparent in two days' time, in the undesirable shrivelled and blackened tips and edges of the petals and tender leaves. The beauty of the plants was greatly depre-

ciated. Now, in Wood's Hand-barrow, a frame and a cover to go over the top can be erected in a few seconds: When the cover is fixed on, there is no possibility of harm to the plants from frost, wind, hail, rain, or snow. And it does not lack wheels, either, if these are at any time desired. Having four legs, as in the ordinary hand-barrow, there are also two half-moon-shaped iron supports fixed between the front pair of legs, and these are turned inward under the body portion of the barrow. The tips are fitted, hook-like, for catching the axle that joins a pair of iron wheels that are a little over a foot in diameter. When the wheels are placed under the barrow and hooked on, the barrow is lifted a foot high, and to maintain it level, a rod fitting to the second pair of legs is adapted to descend so much as is wanted to add to the length of these legs, and thus equalise the height of both ends of the barrow. The barrow is not heavy, and two men or lads can manage it with as much ease as an ordinary one. Though the description of it may give the impression that it is intricate, this is not so, and anyone can at once fit it for the purpose desired on any given occasion. It has undoubted merits, and I feel certain that it will meet with approval from gardeners generally.

Wood's Improved Sprayer is a very useful little appliance, that can be employed with one hand, leaving the other hand free to hold the plant, the branch, the flower, or the foliage, as the case may demand. These hand sprayers are made with metal or aluminium reservoir, and indiarubber tube and pump. The latter (egg-shaped) is squeezed by the same hand that passes through the handle, and forces a fine spray through the nozzle. For dewing floral decorations, this little spray will prove useful. There is the "Perfecta Spraying Syringe," which, by very easy application, "sprays direct forward or at any angle within an arc of 90deg from axis"; that is to say, any angle between horizontal and vertical. The spray can be coarse or fine, or an open-bore jet can be forced through at the will of the operator.

Weeks and Co., Chelsea.

The establishment of this horticultural building and heating firm is close upon the King's Road, at Chelsea, and is contiguous with the grounds of Mr. William Bull of Chelsea, and is also within a stone's throw of Messrs. Veitch's Royal Exotic Nurseries. The neighbourhood, indeed, is very much "horticultural," for here also is Messrs. Wimssett's extensive market-nursery, a great home for popular Palms, Ferns, and other useful ornamental plants. Messrs. J. Weeks and Company have also offices and a show-place near Sloane Square, which is over a mile up the King's Road, and nearer the more business part of London. Here, as well as at "the works," the plans and estimates for their numerous contracts are prepared, and any one calling at either of the places may find draughtsmen actively engaged on their large-scaled plans and cartoons. I believe the firm is open to offer contract plans to those who are desirous to erect or alter conservatories or other glass structures. Their hothouse buildings are largely built of teakwood, the most durable of all woods for the purpose, and having many qualities besides. I was privileged to inspect the works where everything is prepared and fitted before being despatched to the site for erection, wherever that may chance to be. The astricles, the beams, the stages, the doors, and every part of the greatest hothouses, are made at the works in Chelsea, being measured, planed, turned, drilled, fitted, fixed together and painted, before leaving the establishment. This consists of a massive building, with smithy and furnaces on the ground floor, and above this three or four other successive floors, each devoted to a special branch of the joinery, painting and glazing businesses. When one "floor," or section of workmen on that floor, have finished their portion of the preparatory work in hand, the article is passed on to another squad for further manipulation, till, lastly, it reaches the hands of those who do the smoothing and painting. The division of labour is carried to a nicety, and every process is nicely regulated and well performed. Suitable machinery, such as circular saws, steam-power augers, and drill gouge, are also much employed. With these helps to good, economical, and speedy workmanship, the appliances and fittings of hothouse buildings are constructed on the most approved lines, and the best materials of their respective kinds only are employed. Iron and wood are both employed on occasion, according as particular purposes may require their use.

In the foundry, on the basement area, the firm's Upright Tubular Boilers were being fitted together with much din and rattle, by a staff of able-bodied engineers. This "one boiler" system—the Upright Tubular form—has been tried long enough in every part of the country to have gained the confidence of gardeners. A summary of its stated advantages are that it saves from 25 to 30 per cent. of fuel, 50 per cent. of labour, and is very rapid and intense in its heating power. "Experiments," it is claimed, "prove, without doubt, that an Upright Tubular Boiler with less fuel, will heat an apparatus in forty minutes, which it would take a saddle boiler 1½ hour to accomplish, and give a temperature several degrees higher than that which the latter could possibly achieve.

Chrysanthemum Rust: Is it Dying Out?

Mr. Bolton, in the Journal of March 13, says a discussion on the above subject would be interesting, and I fully endorse his sentiments, for now are we laying the foundation on which to build our reputations as Chrysanthemum growers in the coming autumn. To the question at issue, my answer is a very emphatic "No!" And I would add that so long as Chrysanthemums are so extensively grown as at the present time, it will not, of its own free will, even diminish. Like the Potato disease, in some years the so-called rust may be more prevalent than in others; but now it has attacked the Autumn Queen we may rest assured it will never leave her unmolested unless we knights of the blue apron, &c., rally round our Queen and keep the enemy at bay.

From repeated observations, there is no doubt in my own mind that those who cultivate Chrysanthemums in or near to large towns have an advantage, as far as the rust is concerned, over those who are situated in the country. This is, I know, quite contrary to a great many people's ideas, who insist upon telling me that if a plant cannot be kept healthy in the country it certainly cannot be expected to thrive better in a town! In support of the former statement I will state a case. Our own Chrysanthemums are grown on the confines of a large park (forest would be a more appropriate name for it) of some 1,100 acres in extent—in fact, we are surrounded by land practically uncultivated. Now, we always find rust on some of our plants in January and February, but by the time they are placed out of doors in early May there is no suspicion of it left. Every leaf on which a spot appears is picked off and burnt, and we never see a speck of it from April till August, or perhaps September, and where does it come from then? Many gardeners have answered that it has been lying dormant all summer, but vegetates as soon as the foggy nights commence. There is no doubt that the temperatures that prevail in late summer and early autumn are the best suited to its development; but then, we never find it on the bottom leaves first, but almost invariably half-way up the plant, on leaves that have been made long since a particle of disease had been seen. I believe our plants are absolutely immaculate for about three months, and as there is no such thing as spontaneous life the rust must come from without, and that means it comes from the wild plants growing in the neighbourhood. I have noticed a very similar parasite on Dandelion leaves, also on the leaves of *Senecio Jacobæa* (I forget its popular name). Another thing, our plants are grown in rows running N. and S., and we have noticed that the plants in the western row have been the first attacked, probably because western winds prevail in autumn, bringing with them spores galore.

From the above it will easily be understood why I consider plants cultivated away from Nature in her more primitive state will be less susceptible to rust than those grown in the open country. Every year I give away some hundreds of Chrysanthemum cuttings to gardening friends who have not the same privilege of buying new varieties as I enjoy, and one of my greatest rivals at our annual show is also one of my best customers—and, I may add, my best chum too. He lives near a town, and on one occasion only has he had the rust in autumn. I was then reminded very quickly of my pet theory, "and for the nonce" was non-plussed, for I knew how carefully his plants had been watched and how free from disease his collection had apparently been for some months. The mystery was unexpectedly solved by his foreman one day peeping over the garden wall into the adjoining garden, for there, immediately beneath him, stood a lot of bush plants in as bad a condition from rust as could well be imagined. I could give other examples similar to the foregoing, all tending to prove that if a collection of Chrysanthemums is kept clean in spring it will not be troubled with rust in autumn unless the disease is by some means brought to the plants. Every year I buy cuttings from all the principal Chrysanthemum nurseries, and I know perfectly well from which I shall receive clean cuttings and from which I shall get cuttings that will develop rust before they are struck. Yet I never hesitate to patronise one as much as another, for it generally happens that the cleanest plants in spring are among the first to take the rust in autumn, and those that are infested in spring have it in the mildest form later on.

I trust the foregoing will not deter any would-be mummer from commencing the cultivation of this lovely flower, but rather inspire him with a determination to resist, by all in his power, our common enemy. It seems that up to the present there is no cure for the rust. The writer has tried everything that he has seen advertised or recommended for that purpose, besides trying every salt, spirit, hydrocarbon, &c., he could think of himself; but everything that appeared to kill the spores most certainly killed the leaf on which they were situated. Preventives there are, and the best I have found is liver of sulphur and softsoap, ¼oz of the former and ½oz of the latter. Dissolve the two together in a little hot water, then add sufficient water to make a gallon.

By watching our plants carefully in spring, and removing all diseased foliage, and syringing them frequently with the above solution all the summer and early autumn, we have so far mastered the enemy that, unless anyone examined our plants very carefully in November, they would certainly say, as many have done, that we were perfectly free from rust, and as long as we have it no worse than that we will not complain.—MODESTO.

The Taj Gardens, Agra, India.

We have been favoured with views and a brief description of the Taj Gardens in the city of Agra, which was originally the capital of the Mogul Empire, one of which, known as the Locust View, is represented in the annexed engravings. The Taj Garden contains fifteen acres of cultivable ground. Many vistas have been made during the last few years. Ten years ago nearly the

of locusts visited the garden. They did not fly as locusts usually do, but came marching, crept over the high walls, and ate the leaves and flowers of a large number of ornamental shrubs and creepers. In a very short time they devoured the leaves of the Bougainvillea which now forms the low hedge. It was perceived that this opened out a new view of the building, and at once the hedge was lowered. The locusts marched from the east into the garden because their wings had not grown; hence they remained in the garden until they were all destroyed. Twenty men and boys were employed ten days in destroying them. They greedily ate the bark of *Cupressus sempervirens* and *Juniperus prostrata*. The naked trees and shrubs presented a curious sight; but no permanent damage was sustained, as they were soon all covered with light green new foliage.

On page 299 we submit another view of these gardens, and it is pleasing to observe that gardening is being so well and intelligently carried out in this ancient and historical station, once for magnificence and commerce the first city of India. It was the court of the great Akbar nearly three hundred years ago, on whose palace a thousand labourers were employed for twelve years at a cost of



View in the Taj Gardens, Agra.

whole of it was in the native style, in fact little better than a native market fruit garden. Eight plots, containing nine-tenths of an acre each have been cleared, and converted into ornamental garden, which is being kept up at very little more expense than the former native style. The fruit revenue has suffered to some extent, but not much, as the best fruit has been left. There are about four hundred varieties of choice Roses planted by a Mr. Smith, Superintendent, some of them not by any means old, as the following have bloomed well:—Diana, Magna Charta, Princess Beatrice, Antoine Mouton, Anna Blanchon, Pierre Guillot, Madame Ducher, Julius Finger, Souvenir d'Adolphe Thiers, Paul Neyron, Madame Maurice Kuppenheim, Madame Alexandre Bernaix, Madame Lambard, Capt. Christy, and many others. A large bed of Maréchal Niel on rough trellises has been a pleasing sight.

The view on page 299 is taken from the south-west corner of the marble platform or dam. The plants in pots on the ground are *Opuntias* of various curious kinds. The hedge in front is *Bougainvillea spectabilis*; the Palm leaf hanging over the tall *Cypress* is *Arenga saccharifera*; the thick dense foliage is mostly composed of *Mimusops Elengi*; the plants in tubs on the platform are *Dracaenas* and *Excaecarias*. The view was opened out about two years ago, and is called Locust View because a large army

three millions of rupees. But the splendour of this former place has departed, and the gardens for which it was remarkable are changed with the lapse of time. From this city to Lahore, a distance of five hundred miles, is said to be the finest avenue of trees in the world, the road being canopied with foliage the entire distance. In the Taj Gardens that have been so much improved of late, we are informed there is a large variety of trees, shrubs, and plants from nearly all parts of the globe. At the entrance to the right there is a Conifer plantation, and on the left there is a palmarum, both thriving equally well. One of the main points in the new arrangements has been to have as much lawn as possible. The designs are simple. Everything pertaining to fantastic, angular, and intricate forms and shapes has been avoided. All designs of beds which would be likely to clash with or pretend in any way to imitate the floral and ornamental designs which are so conspicuous in all the buildings have been carefully eschewed, and the result is a garden at once attractive and enjoyable. The picturesque character of this garden is shown in the engraving. This view has been taken from the circular Rose garden. The naked tree is *Bombyx pentandrum*, and is over three hundred years old. It measures 45ft round the base. The hole in the upper part of the trunk is where a large limb was blown off in a storm fifty-two years ago.

Some Typical Gardens.

III.—The Manor Farm.

I have given it a name because every farmstead in the kingdom possesses one, even though it may not boast of anything worthy of being called a garden. Curious indeed are the titles by which rural farms are known, and it would be interesting to learn the origin of them. In some cases this may be traced, but in the majority of instances even the folklore of the district gives no clue, and the names are passed on from one generation to another without anyone concerning themselves about the origin of the title. Indeed, the homestead itself may disappear; but the name is never effaced, and clings for all time to some field, cottage, or track of land that marks the site. My office here, however, is not to write about the name of the farm, but its garden, and perhaps I may be allowed to generalise a little to begin with.

the least, the situation, that marks the rustic farmhouses amongst the beautiful objects of this fair land.

At the same time it is sad to see so many of these homesteads under a cloud, so to speak. In many of them, where in the old days a well-to-do farmer dwelt and brought up a family in prosperity and comfort, you find only a bailiff or a labourer, and the garden, like the rest of the place, presents evidence of the agricultural depression that has brought about these regretted changes. The garden is still there, but it is untidy and uncared for; the little lawn, once well kept, is tenanted by chicken coops, and the rank unmown grass, uncut verges, and weedy walks tell their story only too plainly. And the farmer who lived and made money there in better days—What of him? Perhaps he went on hoping against hope for good seasons and higher prices until the end came and he went under, as many a striving farmer has done, or else he saw the end coming and saved himself in time. But let us pass over this aspect quickly. It is a gloomy picture, yet real enough, and the depression that brought it about has also



Marble Platform in the Taj Gardens, Agra.

In the first place, some of the most delightful examples of natural English gardening may be found amid the surroundings of rural farmsteads, though, perhaps, there are places where they are rarely looked for. There is nothing showy, nothing original, and little that is novel; but there is an association that connects one with years and generations of the past. Every old-fashioned flower, unrepresented, perhaps, in the smart up-to-date garden of a few years' standing, has a story to tell, not only of its own faithfulness in going on year after year, but of the way in which countryfolks lived—yea, and loved their simple gardens, when every village was a little world of its own, dependent on its lord of the manor and yeoman farmers, before the genius of inventive skill changed the old order of things, and rural dwellers became less content to follow in the footsteps of their fathers. They seem to have all grown old together—the ancient homesteads, the quaintly built barns, and the rambling gardens. Not only in company, but in unity, for it is the combination of architecture, landscape, trees, flowers, buildings, and, not

made itself felt amongst the gardens and gardeners in many a country establishment. Some people say that there is a brighter outlook ahead. Let us hope that such is the case, and that the many tenantless farmhouses may again be occupied with men of means and abilities qualified to keep up the traditions of British agriculture.

Whatever may be said of the old school, the average farmer of to-day is not an enthusiastic gardener. Closely as agriculture and horticulture are connected in many respects, still there is a gulf between them, and the farmer does not concern himself to cross it. Too often he looks on the garden as a necessary adjunct to his establishment to provide certain needs, and he gives it just enough attention for that purpose. But his real business is his stock and field crops; and as for the flower garden—well, for the sake of appearances it must have some attention, but in many cases it is left to the feminine portion of the household to look after. There may be an excuse for this, because in latter years it has been no easy task to keep the balance in the ledger on the right side, and the

farmer's energies have been so taxed to effect this end that he has had little time to give to the parts of his holding that do not materially help to pay the rent. I say this may be so, but I must also add that as a rule the farmer is not a gardener; he does not want to be, and is quite content to remain on his own side of the fence that marks the division between agriculture and horticulture.

If such is the case, then the occupier of the Manor Farm must be an exception to the rule. Perhaps he is, for his interest in gardening is not unfeigned, though I am not sure whether it is natural or acquired. The truth is, he possesses a gardening wife, and instances are not uncommon where the influences of the latter have made themselves felt on the husband in this direction. At any rate, the good man says that he is no gardener, but a farmer, like his father and grandfather were before him, and then he laughingly adds that the "Missus" likes the garden, and he must needs do her bidding for the sake of his own peace of mind. I have formed my own opinion about this, for the man who will stroke the quarters of a favourite cow one minute and then stroll into the garden to see how his newly-budded Rose stocks are progressing, is something of a gardener as well as a farmer, in spite of his assertions to the contrary. The man must needs have recreation too, and here he finds it, for when the serious business of the day is over—even in harvest time, when evening finds him tired—he may be seen in the garden, just pottering about, as he terms it, but in reality doing odd jobs—staking up a straggling flower here and there, nailing in a wayward Rose shoot on the wall, attending to the needs of the Cucumber in the frame, or trying the flavour of the Green Peas in a raw state. He is rarely alone, for the "Missus," who would never think of interfering as to the way in which any of the fields should be cropped, or when the hay should be carried, is the ruling power inside the walls that enclose the garden. In the early summer mornings, before half the world is awake, and when the master is superintending milking operations, she snatches odd minutes to prick off a few seedlings, but without neglecting the more important business of the dairy.

The Manor Farm is one of the brightest spots amongst agricultural homesteads. It may have felt the strain, but the signs have never become apparent, and there is the old-time air of prosperity and comfort about the place. The house is old, rambling, and heavily timbered, and the first rays of the morning sun peep through the low windows into rooms with low ceilings and mighty time-blackened beams. From the back door one steps into the farmyard, where the buildings form a square, and the picturesque old barn, with its great expanse of roof, seems to be keeping guardian over the lesser structures. But we have nothing to do with this department, and turn through the little side door under an ancient Yew tree which leads the way to the garden.

What a charming place it is! Old and quaint, like the house itself, but there seems to be a personality about every plant, flower, and tree. Try to imagine an early summer morning in the Manor Farm garden, when the windows are thrown open to admit air, laden at different seasons with the delicious odour wafted from the flowers of the old Wistaria, that rambles in a way of its own over the housefront; the white and purple Lilac, that grow in the corner; and the Laburnum, a little further down, which showers its yellow petals on the grass along with those of the sweet Hawthorn when flowering days are drawing to a close. At another time the scent is that of Roses from the old York and Lancaster bushes, Cabbage Roses and Sweet Briars, mingled with more modern varieties; for, as I have said, the farmer has a weakness for the Queen of Flowers, and takes a wondrous pride in the plants budded by himself on briars obtained from the hedgerows. A border runs round the garden, with one on either side of the centre path; and what a mixture they present, to be sure, but there seems to be always plenty of flower. Snowdrops appear in the farm garden before anywhere else in the village, followed by the Yellow Crocuses, which the "Missus" makes such a trouble over because the sparrows play sad havoc with them. Then follow the Lenten Lilies, the Polyanthuses, the Wallflowers of delicious odour, and the Forget-me-nots, which have their own place near to where the Sweet Violets grow.

To know what there really is in the borders you must have time to investigate them and the "Missus" for a

guide. She picks her way in and out, telling the history of this clump of Clove Carnations, that border of Pinks, or the big batch of purple Irises further on. She has quaint, homely names for many of her favourites, such as her grandmother used in her day, and wishes for nothing better. The "Old Man" bush near the door has a scent of its own, and the clump of Lavender is tended carefully for household purposes. Sweet, indeed, is the smell of the Sweet Williams in the garden, and bright the colour of the Canterbury Bells. Larkspurs, Phloxes, Day Lilies, Chrysanthemums, and Michaelmas Daisies seem to join hands in providing a succession of bloom, and when they are all over the Christmas Rose clump, which is given the privilege of a handlight in winter, has its turn. Every summer sees a blaze of gaudy Sunflowers in one corner; but they are grown with a purpose, for the chickens in the yard appreciate the oily seeds.

The Currant and Gooseberry bushes, jumbled up in a mixed medley way amongst the flowers, are ancient, and not particularly attractive, but they always bear; and the Elderberry bush, which few people would tolerate in a garden, provides material for the annual brewing of wine. The espalier Apple trees alongside the centre walk, the Apricot on the house front, the Jargonelle Pear which covers the stable end, and the big Blenheim Orange which stands in the garden, are evidence of the fruit-growing tastes of some former tenant, and if more is wanted it can be found in the aged, but still profitable, trees in the orchard behind the house. It would seem as though the flower borders have wandered on to the parts intended for vegetables, as there seems to be no defining line between them; but it is quite characteristic of the garden, this mixture of the ornamental and the useful. Never was there such a southborder as that in farm garden for early Potatoes, according to our friend's statement, and it is a proud boast of his that he cuts Asparagus from his forty years old bed a week earlier than the gardener up at the Hall. The Rhubarb is a mighty clump, and provides material for tarts till the green Gooseberries come along, and then its sticks are utilised for wine. The "Missus," by the way, is famous for this beverage, though she never touches it herself, and her husband jokingly remarks that she would make wine of the paving stones if she could get nothing else. But the garden does not supply all the material, and at certain seasons the little lawn is strewn with Cowslip and Dandelion flowers drying for the purpose indicated.

Have I yet described this simple, dear old garden fully? I am afraid not; but I must stop now, for my space is filled. At times the farmer talks of retiring, on the ground that he is getting past it. His neighbours hope he won't for many reasons. But when the time does come I trust that his successor will be something of a gardener as well as farmer. I fancy the "Missus" hopes so too.—A BRITISH RUSTIC.

Figs Under Glass.

The fruits of the very early varieties, Early Violet and St. John's or Pingo de Mel, are now showing signs of ripening; syringing must cease, or the fruit is liable to decay at the "eye," being attacked by a fungus, *Glœosporium laticolor*, and a lessened supply of water given, or the fruit will be indifferent in flavour. A circulation of warm air is necessary for securing highly flavoured Figs. The temperature should be 60deg to 65deg at night, 70deg to 75deg by day, with 80deg to 85deg from sun, advancing to 90deg or more after closing, admitting air or increasing it from 75deg, closing at 80deg to 85deg. Trees swelling their fruit, such as White Marseilles and Brown Turkey, must be well supplied with water and top-dressings of rich compost, continuing to syringe until the fruit shows signs of ripening. Planted out trees started early in the year should have the superfluous growth removed at an early stage, stopping a fair amount of shoots at the fifth leaf to form spurs; but avoid overcrowding and attend to tying in the shoots, allowing space for growth. Surface roots should be encouraged by a mulching of lumpy manure, which will prove beneficial if kept moist, both by attracting the roots to the surface and affording nourishment. Liberal supplies of water or liquid manure will be necessary to assist the fruit in swelling satisfactorily. The temperature should be increased to 60deg to 65deg at night, and in the day-time from 75deg to 85deg with sun heat. Syringe the trees freely on fine days, so as to keep red spider in check, but avoid keeping the foliage wet late in the day.—GROWER.



Coronation Tree Planting.

As there seems to be a great probability that a large number of trees are likely to be planted as mementoes of the coronation of King Edward VII., I might suggest that, to avoid the danger of trees dying by being planted at such an unsuitable time of the year, that all those who intend to adopt this mode of commemoration should, before it is too late, secure trees that have been transplanted, and have them properly prepared and put into suitable boxes or tubs in a compost that would ensure a large amount of fibrous root to be made before June, and by this means and careful planting, the great disappointment by the death of the trees would be avoided. Well shaped trees should be selected at once. Standard trees with stems 10ft to 12ft, with good heads. Coniferæ and evergreen shrubs, 3ft to 5ft, of not too old a growth. Trees of these dimensions would be easy to handle, and would probably do better than larger specimens. The most suitable style of box would be one with all the sides to remove. These could be easily made by running an iron rod through eyes and a nut on the top to keep the box together. When planting remove the nuts and lift away the sides. The tree could then be carefully removed into its permanent position.—H. HAVELOCK, Meric Moor Nurseries, Downfield, near Dundee.

Early Wasps.

During the comparatively abnormal, warm, spring-like weather at the beginning of the present month of March several queen wasps were caught in a large garden near here. Two of them were flying inside a disused old greenhouse, and another was captured amongst the plants upon a grave in the churchyard near the latter, contiguous to the garden in question, thus reducing a corresponding number of the forthcoming season's nests. Last autumn there was an unusually small number of wasps, doubtless owing to the scarcity of queens, occasioned by the effects of the prevailing late cold and wet spring weather which characterised that season of the year. It may be opportune to remark that in some large garden establishments it is the custom to offer a premium for the destruction of wasps caught before the first day of May at one penny per head, and sixpence for every nest destroyed throughout the summer and autumn within the radius of a mile or two. An inducement was also offered for the finding of the nests in the shape of threepence each, and the deponent himself, when a youth, considerably augmented his private exchequer in the exercise of both accomplishments, and has a vivid recollection of the enjoyable preparations for the destruction of the nests, commencing with the making of "touch paper"—i.e., brown paper saturated with a solution of saltpetre and water, and when dry used for encasing the "fizz-balls" of moistened gunpowder and brimstone for stupefying or killing outright the wasps in their nests, the *modus operandi* simply being first of all to kill the "watchers" at the orifice leading to the nest, ignite one end of the cartridge, insert it somewhat loosely in the hole so as to allow of sufficient air for combustion, then quickly cover with a clod of turf so as to retain the smoke so soon as the more or less prolonged explosion took place, when the beleaguered army with their poisonous weapons would quickly be placed hors de combat until the besiegers finally captured the stronghold by digging it out of the ground and smashing it up in situ; and if water was at hand a canful mixed with the comb and earth rendered this the more complete.

There were, however, more than one means of destroying the nests, and one of the least laborious and quickly done was to pour about a pint of gas tar in the entrance hole, or a little cyanide of potassium, and either of which would also kill any vagrant wasps that may have returned home the next day after staying out the previous night; another useful insecticide was the pouring of, say, a quarter of a pint of spirit of turpentine in the hole and plugging it with the neck of the bottle, there to remain for a few days, so as to "mak siccar" of the death of the whole brood by stifling it en bloc. Occasionally a comb was taken home for the purpose of using the larvæ for fishing baits or for the delectation of the domestic fowls and ducks, who quickly "gastronomised" the succulent "tit-bits."

Apropos of the "capitation fees" paid for the destruction of wasps and hornets, a similar inducement was also held out for the destruction of other "varmint," such as rats, mice, house-sparrows, tom-tits (the smaller and larger titmouse), bullfinches, or other garden pests of the nature indicated.

The foregoing practices were in vogue during the early portion of the Victorian era; but I have an idea that if not wasps' nests, the rest of the "varmint" subsidy had for some years past been more honoured in the breach than in the observance.—W. G.

The Bothy.

Having once stated my views on the bothy in one of the other gardening papers I thought of leaving it alone in the *Journal* for some of the other young gardeners to take up, but few seem to respond to it. I am certain there are plenty of young gardeners at the present time full of grievances with regard to the bothy. Now is your chance—with the kind permission of the Editor—to thresh out these bothy troubles. This is why I take up my pen again. It is true I have said Good-bye to bothy life, but for all that there is nothing to stop me penning a few words, having spent some years in bothies—some good, some bad. In some gardens the word bothy can hardly be termed a house built in the garden for under gardeners to live in, but a kind of shed on the north side of a wall, more fit for a store-room or tool shed than a bothy. With some cases it may be the gardener's fault in not bringing the facts of the bothy to his employer's notice. Then, again, it may be that some employer takes little or no interest in his gardeners or gardens: cares more, perhaps, for his horses' and dogs' welfare than for the young gardeners' comfort. But with the present discussion going on in the gardening papers at the present time on the bothy, I fancy it is going to stir up some of the owners and gardeners in charge, not before it is needed. Of course, some of our old gardeners will soon tell us they have been through these bothies; but there is no reason if they did why others should; and the time is now at hand for one and all to bestir themselves. Can we expect anything else but a scarcity of good journeymen when they know what places there are in some gardens to live in? There is always plenty of journeymen in want of situations, but the one continual cry of head gardeners is that they can't get good men at the present time. Why is this? Because there is plenty of other work for young and intelligent men with better wages and less hours than gardening. So can anyone blame young men for not remaining in the garden?

But there are two sides to the bothy question. Having touched on the bad ones, we must now go to the good ones, which are to be found fitted with every convenience a young gardener may wish for. Generally speaking, do young men having a comfortable bothy, with reading-room, &c., make the best use of them? In some they may, and in others, I am sorry to say, they don't. So very often the men are to blame themselves. If they have a good bothy, and every encouragement given them to study, it is their place to show that such kindness is appreciated, and take an interest in keeping everything in order. Having received an invitation to look round Park Place Gardens, Henley-on-Thames, last week, I accepted the offer, and spent a very enjoyable afternoon in looking round those noted gardens and grounds with Mr. G. Stanton, the well-known gardener there, after which Mr. T. Powell, the energetic foreman at Park Place, took me in hand, and showed me the bothy and the new room recently erected for holding mutual meetings in. Everything a young man might wish for is to be found in this room. At one end is a large library of the best works on horticulture; on a large table near are all the leading weekly papers; then there are writing desks for them to use. I may say mutual meetings are held during the winter months on various and useful subjects. I noted papers had been given this winter on "Stamps and Stamp Collecting;" "Culture of Chrysanthemums;" "Vine Culture in Private Places;" "Primulas;" "Bouquets;" "Bees and their Work;" "The Light and Heat on Plants;" "Some Fragrant Flowers;" short papers on various subjects, and "Spring Tints" (by Mr. Stanton). A cricket and football club is formed on the estate. So what else would a young man wish for? Many will say we cannot do and have such things as Park Place, but where there are several bothies in a district there should be nothing to prevent the young men uniting and forming these clubs, &c.—J. BOTLEY.

Flower Shows.

The average show report (if published) would read "though a nice show was got together, the attendance was not large, and the committee have to face a considerable pecuniary deficit." Are there more than ten shows in all Britain, asks the "Horticultural Advertiser," where the committee is not obliged to go around with the hat either before or after? Shrewsbury, York, Wolverhampton and one or two more, by catering to the public taste for other than horticultural entertainment, and thus making their shows the fete-day of the district, have succeeded in becoming immensely popular; but the ordinary secretary's job is a heart-breaking one.

Pomological Notes.

Peaches and Nectarines—Earliest Forced Houses.

The very early varieties, such as Alexander, Waterloo, Early Beatrice, and Early Louise, will soon give indications of ripening, when syringing must cease, and the leaves that shade the fruit be drawn aside, raising the fruit, if necessary, on laths placed across the wires of the trellis, so that its apex will be directly to the light. Do not hurry such varieties as Hale's Early, Stirling, Royal George, and Dymond Peaches, or Early Rivers, Lord Napier, and Elrue Nectarines during the stoning process, but continue the temperature at 60deg to 65deg at night, 70deg to 75deg by day with sun heat, and about 65deg in the daytime in dull weather, avoiding sudden fluctuations and depressions. Tie the shoots to the trellis as they advance, and regulate the shoots for future bearing, so as not to have them too crowded, as by giving the shoots ample room the fruit is better exposed to the sun and air, and the wood for another year is stouter and better ripened. Shoots disposed to grow more than 14in may have the points pinched off, but extensions should be trained to their full length. When the stoning is over, which may be ascertained by testing a few fruits with a knife, the crop will require regulating for the final swelling. Very vigorous trees may be allowed to carry more than one fruit to each square foot of trellis, while weakly trees should not be allowed to bear so many. Supply weakly trees with liquid manure, the inside border in any case being kept properly watered, mulching the surface with a little well decayed manure. This will secure uniform moisture, and favour the surface roots.

Trees Started at the New Year.

The fruit should be thinned to a few more than is required for the crop. Avoid sudden checks by judicious ventilation, cold air in the daytime and a high temperature at night proving fatal to the fruit stoning. A night temperature of 60deg to 65deg, and 55deg on cold nights, and 65deg by day in dull weather, with 70deg to 75deg from sun heat is quite sufficient.

Trees Started Early in February.

Syringe the trees occasionally in dull weather, and twice daily in bright; but avoid heavy syringings, especially late in the afternoon, as the water remaining long on the leaves interferes with their elaborating functions, and may destroy the tissues. Allow a temperature of 55deg to 60deg in mild weather at night, ventilating from 65deg, permitting an advance to 70deg or 75deg from sun heat, but with full ventilation. Attend to disbudding, and follow it up day by day until only the shoots required for future bearing or the extension of the trees are retained. A shoot may be left at the base of those now bearing, and another on a level with or above the fruit. If the latter is not required for extension it should be stopped at a few joints of growth. In the case of trees not full grown, it will be necessary to leave shoots about 15in distance apart, calculating from the base of the last year's growth, to form the bearing shoots of next year, the terminals being trained in their full length as space permits. Avoid crowding the growths, as they become weak and unfruitful. Commence thinning the fruit when they start swelling, removing the smallest first and those on the under side of the trellis, beginning with the weakest part of the trees, thinning proportionately more than on stronger wood, which, from carrying more fruit, will tend to equalise the vigour of the tree. Laying in the shoots requires to be done early and carefully, so as not to bring down the shoots too sharply, yet it is necessary for giving the right direction to the growths, and in securing the growths to the trellis space must be left for their swelling.

Trees Started in March.

While the trees are in blossom it is well not to syringe them; but a genial condition of the atmosphere may be secured by damping the paths and borders in the morning and early afternoon. Prevent a vitiated atmosphere by providing a little air constantly through the top ventilators. Maintain a night temperature of 50deg, falling 5deg or more through the night in severe weather; 50deg to 55deg by day, and 65deg from sun heat.

Latest Houses.

The blossoms being abundant, remove those on the under side of the shoots. Shake the trees daily from the first pollen ripening until the last of the blossoms requires attention, selecting the early part of fine days when artificial impregnation is resorted to, and it is a good plan to dust every blossom when the pollen is ripe with a camel's-hair brush, a feather, rabbit's tail mounted on a stick, or a small plume of Pampas Grass. Any trees deficient of pollen should have it taken from those affording some plentifully, such as the small-flowered varieties, Royal George Peach and Elrue Nectarine. Maintain the temperature at 40deg to 45deg at night, 50deg to 55deg by day, in all cases accompanied by slight ventilation at the top of the house, which must be increased when the temperature reaches 50deg, and having it full at 65deg.

Unheated Houses.

The trees are coming into blossom. Ventilate the house at 50deg, and do not permit an advance above 65deg without full ventilation top and bottom, and close the house at 50deg in mild weather; but when there is a prospect of frost at night close at 65deg, leaving a little air to allow of moisture escaping. In mild weather leave the ventilators open constantly when the temperature exceeds 50deg. Remove the blossoms on the under side of the shoots where there is a superabundance.—G. A.

Melons: Earliest Plants.

The first Melons, those raised from seed early in the year and planting out early in February, are setting fruit on the first laterals. A rather drier atmosphere, and no more water than to prevent flagging, with an increase of temperature of about 5deg, and a circulation of warm air, are desirable during the setting period. The flowers should be fertilised every day when fully expanded, pinching out the points of the shoots one or two joints beyond the fruit. When the fruits are set, and about the size of a Walnut, give the bed a thorough watering, and in a day or two add soil to the sides of the ridges or hillocks, pressing it firmly, and again supply water. Both the soil and water should be warmed to the temperature of the bed. Stop the subsequent growths to one or two joints, and prevent overcrowding by rubbing off shoots from which there is not room for the foliage to have full exposure to light. If the bottom heat be increased 5deg, or to 85deg, it will assist the swelling of the fruit. Do not overcrop the plants, but leave the fruit proportionate to their vigour, two on weakly, three or four on vigorous, and very strong plants may carry six fruits. The night temperature may be 65deg to 70deg, 75deg by day, ventilating from that point, increasing to 85deg or 90deg, closing at 85deg, sufficiently early to increase to 90deg, 95deg, or 100deg. Damp the house in the morning, syringe moderately by or before three o'clock on bright warm afternoons, damping available surfaces in the evening with liquid manure. Plants in narrow beds will require plenty of liquid nourishment, always in advance of the mean temperature of the house, and top-dressings of rich material.

Successional Plants.

Train the growths regularly, remove every alternate lateral, rubbing them off directly they are perceived, the remainder being trained to the right and left of the stems. Pinch out the points of the shoots of primary growth after they have extended two-thirds of the required distance. Increase the supply of moisture both at the roots and in the atmosphere as the days lengthen. Pot off seedlings, shift into larger pots, and plant out as required. Sow more seeds, to afford plants in proportion to the wants of individual establishments. In pits and frames a bottom heat of 80deg should be secured to plants that are growing freely, renewing the linings from time to time so as to maintain requisite heat. In newly made beds the bottom heat should be about 90deg.—G. R.

Cucumbers: In Houses.

Shade will be necessary from bright sun, but it should only be used for a few hours at the hottest part of the day, and only sufficient to prevent flagging. Assist plants in full bearing with frequent applications of weak tepid liquid manure, and add fresh, warmed soil to the beds occasionally. Plants in bearing for any great length of time should have the old exhausted soil removed with a small fork, not injuring the roots; adding fresh lumpy compost previously warmed. Thin out the exhausted growths, and encourage fresh bearing shoots. Expel worms with lime or soot-water, a peck to thirty gallons of water, stirred well, letting it stand forty-eight hours, then watering with the clear liquid. Subdue canker at the collar and in the old growths, by rubbing quicklime into the affected parts. Damp the floor in the morning between seven and eight o'clock, syringing the foliage gently on warm afternoons, and keep liquid manure in the evaporation troughs. Attend to stopping, thinning, and training at least once a week. Maintain a night temperature of 65deg, 70deg to 75deg by day, 80deg to 90deg with sun, and close sufficiently early to maintain the latter temperature, or even rising to 100deg, with abundance of atmospheric moisture. Ventilate moderately and early, avoiding sudden changes of temperature, also currents of cold air, which cripple the foliage and cause the young fruit to become deformed, and to swell irregularly. Where straight fruit is required glasses should be employed.

Pits and Frames.

The requisite heat should be maintained by renewing the linings. Train the growths rather thinly, pegging them down as required, and stop one joint beyond the show for fruit, or the leading growths about 1ft from the sides of the frame. Add fresh, warmed soil to the ridges or hillocks as the roots extend. Be moderate in the application of water, as the nights are as yet cold, and employ thick night coverings. Admit a little air early, so as to have the foliage dry before the sun acts powerfully upon it. The heat through the day may range from 80deg to 90deg with sun. Close early in the afternoon no harm accruing if the temperature rises to 90deg, or even 100deg, provided there is no rank steam. If there is danger from it, admit a little air constantly, a small opening being sufficient to allow it to escape, as it is very light.—A. G.

Self Education for Young Gardeners.

Notes on this subject appear from time to time, which are a good sign, as they show that some interest is taken in the matter, but I fear young gardeners as a class devote far too little time to improving their minds, and that is one reason why many fail to succeed at a later period, and have to give up private gardening and take to other pursuits. There are various reasons for this apathy; one has quite recently been noticed in a public speech by the headmaster of one of our largest schools, wherein he says: "The English—or a great portion of them—do not love learning at all, and will neither learn nor teach themselves." Those are strong words, but I am certain there is much truth in them. Another reason, and a growing one I fear, is "love of sport and play;" and again a certain number do not realise the importance of study, and think they can learn gardening as a bricklayer learns to lay bricks; and a few have no love for the work. The last may be dismissed from further consideration.

I am not one of those who consider that the young gardeners of to-day are worse than those of thirty years ago. I can count thirty-six companions with whom I lived in five different bothies; only three of them could fairly be called readers of gardening books; one of these has for many years held one of the best head gardener's situations in this country; another went to California, where he soon obtained a large salary as head gardener, and in which he still continues; the third has done remarkably well in the horticultural trade; the others, where are they? And echo answers "where." Some are still struggling on at gardening as best they can, and many of them, no doubt, realise now that it is too late; that they ought to have pushed on more when they were young. Three successes out of thirty-six are a very poor average—only about 9 per cent. Considering the gardens they were working in the results ought to have been much better.

The question arises here why did so many fail? and in most of the cases it may be answered by "want of application" and "want of self-control." It was not want of ability, or of the means to learn, but, in the words of the headmaster quoted above, "they did not love learning," and wasted the precious moments known as "spare time." These are moments that never return, they should be utilised as they come. I do not wish to say anything against healthy and harmless recreation, when it is taken in moderation; but my experience tells me that very few are able to exercise moderation in the hours of play. Those who cannot take an hour at a game, and then leave it and go on with their study, ought to leave play alone entirely, and get a change by taking a walk for botanising; studying the growth and measurement of trees; studying insects, particularly those injurious or helpful to the horticulturist and farmer; and in the winter evenings could mount their specimens, and read up books in connection with the subjects. Another great thing is art in connection with gardens, both in the formation of picturesque effects in landscape work, and in the grouping of plants and colours. Photography is a great aid in this study, and is now within the reach of many young gardeners. Apparatus can be purchased secondhand very cheaply. The size known as half-plate is best; a camera to fix up on legs is preferable to a hand camera; the lenses are the chief portion to be careful in choosing, and it is well to get someone who understands them to advise in the purchase. Platinotype printing is the easiest, quickest, and most permanent. The handbook published by the Ilford Co., at 1s., gives all the necessary instructions for beginners, but the whole of the apparatus recommended there is not necessary at the commencement.

The above are all useful subjects which may be classed as recreations in the place of more exciting pleasures, but things more substantial must receive some attention also if the young gardener is to attain to a good position in his profession. Many ladies are now taking up gardening as a pastime, and soon learn a little about it, especially the names of plants, and a few items connected with the cultivation of some of them. And every young gardener of to-day, if he wishes to succeed as head gardener eventually, ought to study his work diligently, in order to know more about it than those who are to be his employers by-and-by. Supposing he has succeeded well at school, he should endeavour to improve all he has acquired there as soon as he commences work, and go on to attain a good knowledge of botany both structural and in regard to classifying and naming plants; chemistry in regard to plant life, manure, and soils; geometry and mensuration, for drawing plans of flower and kitchen gardens, and laying out new gardens, walks, and flower beds. A knowledge of agriculture and farming is often very useful in after life. A gardener in a country district cannot know too much about the science connected with country pursuits; knowledge always proves to be power, and a gardener with a wide knowledge often rises eventually to a better position.

The above are subjects of which a young man may easily obtain a good knowledge by systematic studying of good books.

Fortunately, there are plenty of these at a reasonable price. A start may be made with "Structural Botany" (flowering plants), by D. H. Scott, 3s. 6d.; "Primer of Horticulture," by J. Wright, 1s.; "Practical Geometry," by T. Tate (Longmans), 1s.; "The Chemistry of the Farm," by R. Warrington, 3s. 6d.; "Bentham's British Flora," 12s. These can be added to as occasion requires. One, or at most two, subjects are plenty to study at the same period. Two books that are invaluable to young gardeners are "Nicholson's Dictionary of Gardening," and the new edition of "Thomson's Gardeners' Assistant." Both of these are somewhat expensive. The Royal Horticultural Society's examinations now offer a good test as to the amount of knowledge acquired, and every young gardener should enter, and persevere in his studies until he passes both sections. It is not necessary to go to London for the examinations. Papers will be forwarded to any responsible person who has a knowledge of conducting examinations; for instance, clergymen, schoolmasters, or members of a technical education committee. Practice should go hand in hand with study, or the knowledge acquired will too often be forgotten afterwards. A young man in a good private garden is in a far better position for learning his profession—if he studies it thoroughly—than he would be in any horticultural school or college. One good mentioned by Mr. Russell, also on p. 39, must not be omitted. It contains rules for all emergencies that may arise, and I can safely assert that he who studies the Bible, and lives by its laws, is not likely to fail when difficulties cross his path, and when the end comes will have the satisfaction of knowing he has endeavoured to do his duty to everybody; while he who neglects this book is almost sure to fail in some way, sooner or later.—W. H. DIVERS, Belvoir Castle Gardens, Grantham.

The Late Mr. G. F. Wilson, F.R.S.

Those old members of the Royal Horticultural Society who have during the last generation taken an active interest in its proceedings will regret to hear of the decease of Mr. G. F. Wilson, of Weybridge. Owing to growing age and increasing infirmity, his tall and commanding figure has of recent years been less conspicuous by its presence at the meetings of the Society, but in the old days at South Kensington such absence would have excited general remark. To many of the younger generation it may be news to hear that Mr. George Ferguson Wilson was the discoverer of that invaluable domestic and medical prophylactic—glycerine. At all events, if not the actual discoverer, he was the inventor of the process by which glycerine could be economically distilled from the refuse of candle factories. His experiments by means of currents of superheated steam were conducted at the works of Price and Co., conspicuous on the banks of the Thames at Wandsworth, and the destinies of which he for many years helped to direct. For this precious contribution to human knowledge Mr. Wilson was elected a Fellow of the Royal Society in 1855, before which body he read a paper describing his discovery of the process. In the same year he addressed the British Association, at Glasgow, upon the same subject, when he prophesied the utility and popularity of the new product. From this time honours continued to accumulate upon him. He became a Fellow of the Chemical Society in 1855, and later of the Society of Arts, on the Council of which he sat for eight years. In 1875 the Linnæan Society claimed him for its own, while during most of the last forty years he was prominent in the various departments of the Royal Horticultural Society, occupying in succession the positions of treasurer of the Expense Committee, chairman of the Fruit Committee, then of the Floral Committee, and member of the Scientific Committee until his decease. His devotion to horticulture was unbounded, and by his death the cause loses not merely an eminent personality, but a warm and enthusiastic patron. The attention which he paid to the culture of Liliuns met with the reward so gratifying to the specialist in the form of twenty-five First Class Certificates, gained in the short space of thirteen years. Mr. Wilson, like other great horticulturists, was of Scottish extraction, though an Englishman born, bred, and educated in the neighbourhood of Wandsworth and Streatham. He first saw the light in the year 1822, upon March 25, and as his calm and prosperous earthly career closed upon Good Friday last, March 28, he had completed the goodly tale of an octogenarian by just two days. Time has worked many changes in every walk of life lately, but this transition is not the least noteworthy of those which have marked the opening of the present year, 1902.

Echoes from Hamilton, N.B.

The weather is still very unpropitious, and unfitted for much seed sowing being done. Yet vegetation is moving in a wonderful degree. Parks and lawns are now entirely renovated by their newly acquired verdure. The earlier kinds of deciduous trees are, too, far enough advanced to break into leaf on the least friendly touch of the breath of Nature. The Plane, Lilac, *Prunus Pissardi*, Forsythia, and the Palm Willow have a distinct look of vernality about them, the sight of which somehow conspires to animate the human soul with renewed vigour and energy. The woodlands are also now aglow with matchless Daffodils and Primroses, and the parched-like appearance given to each grove and dale by the withered grass and fallen leaves of an autumn that is past, begins now to be pleasingly neutralised by the intermingling patches of Wood Hyacinths which are fast pushing forward in response to the mandates of Nature.

We destroyed the first moth of the season on the 25th, a large specimen of *Pontia brassicæ*. The day was cold, but varied with warm blinks of sunshine, still we thought the circumstances so very unfavourable for the appearance of this insidious enemy of the garden that we consider it important enough to be recorded. At present there is a fine display of *Cœlogyne cristata* maximum to be seen in the gardens of William Alston Dykes, Esq., The Orchards. Some of the baskets have from forty to fifty-three sprays, with from five to seven blooms. Mr. MacMillan, the gardener, informed us that some of the baskets had seventy-five sprays last year. Clearly he has got the secret of managing this beautiful Orchid.

The Hamilton and District Gardening and Forestry Association is now in its third year, and going on flourishingly. Some valuable prizes have been recently competed for in the forms of essays on the "Flower Garden" for head gardeners, and on "Greenhouse Plants" for under gardeners. This judicious move needs no comment, and we would fain wish more of these stimulating measures were more commonly adopted by horticultural associations.—D. C.

Obituary.

The Late Charles Fisher.

Mr. Fisher, for many years the head of the firm of nurserymen at Sheffield known as Fisher, Son, and Sibray, died on March 21, aged seventy-nine.

Mr. Andrew Dougal.

Mr. Andrew Dougal, gardener, died at Beeslack, Mid-Lothian, after a brief illness, on March 28. The deceased was a son of the late Mr. William Dougal, farmer, Calfward, Perthshire, where he was born over seventy years ago. He was for forty-five years head gardener to the late Sir John Cowan, of Beeslack, and besides being worthily esteemed by the late baronet, was greatly respected in the district, taking, as he did, a deep interest in the local horticultural societies, and being ever ready to give his practical help to amateur gardeners having a love for flowers. He was frequently in request to act in the capacity of judge at the flower shows in Mid-Lothian and Peebleshire, and was a keen Volunteer in the early days of the movement, attaining the rank of sergeant. As a member of the local lodge of Free Gardeners he was one of the best known members for forty years. In politics he was a keen Conservative. He leaves a widow and one son.

Death of Mr. Geo. Stevens.

The melancholy death of Mr. Geo. Stevens, at Putney, on the 27th inst., removes one who for several years was a foremost figure in Chrysanthemum circles, having been for many years, and up to recently, a member of the National Chrysanthemum Society, one of the earliest members of its Floral Committee, an active member of its Executive Committee, and a successful exhibitor at its exhibitions. A Fellow of the Royal Horticultural Society, he was for several years a member of its Floral Committee, and was an excellent judge of the merits of new varieties. He was the proprietor of the St. John's Nurseries, in Ravenna Road, Putney, and also of two florists' shops in that town. As far as can be learned, he was a gardener in his early days, and he then superintended the laying out and planting, in the early fifties, of what was then known as the Duke of St. Albans' estate on the left-hand side of the ascent of Putney Hill. It was during the sixties that he went into business, and took advantage of the growing interest in the Chrysanthemum owing to the introduction and improvement of the Japanese varieties. He was one of the founders, about 1872, of the Putney Chrysanthemum Society, and gave it a warm support. He grew certain subjects for market,

such as the double white *Primula*, Carnations, &c., and also for the supply of his shops. He was twice married, but was a widower at the time of his death. He left no family, but the step-children by his second wife will, it is believed, carry on the business.

English Walnuts in California.

California, whose vast resources are perhaps only beginning to be developed, has endowed English gardens and estates with some notably fine coniferous trees, but native fruit trees of that land we cannot point to. On our part we have reciprocated by sending at least "English" Walnut trees to California, and Walnuts, we learn through the London "Daily Express," are now one of the leading fruit products of that State. This is partly due to the fact that the California Walnut begins to bear at the eighth year from the planting of the seed, while in the Mediterranean countries it does not bear until the sixteenth year, and in England until the twenty-sixth year after planting the seed. The demand for this fruit has largely increased of recent years, yet an over-production is not feared. The Walnut grows in every county of the State—Los Angeles, Santa Barbara, and Orange being the most productive. The trees are planted 40ft apart, or twenty-seven to the acre, and each tree will bear yearly from 30,000 to 75,000 nuts. The trunks of the large trees are 25ft in circumference.

The culture of the Persian, or so-called "English" Walnut, in America is almost entirely limited to the Pacific coast. It is found, however, in limited areas on the Atlantic coast, some of the trees being a century old. The nut is also cultivated with some success in Louisiana and in the Mississippi Valley, and in those countries the "black" or "hard" shell Walnut also grows, and is of great commercial value. But the conditions for the cultivation of the "English" Walnut are more favourable on this coast, and California will ultimately supply the United States. The "English" Walnut is a Persian fruit, and was brought to California from Spain by the Franciscan Friars when the missions were founded in 1769. From the Persian Walnut a number of varieties have sprung, including the "hard," "soft," and "paper" shells. The term "English" is applied to all varieties which have grown from the original stock, for the convenience of commerce. Horticulturists are continually experimenting by grafting trees, but these varieties are the most largely grown in California. The most productive orchards, however, consist of trees grown from the original "English" Walnut, upon which the horticulturists, it seems, cannot improve. In the mission gardens are to be seen large Walnut trees, the first planted in California, and they are still bearing. Along the coast, at the ranches of the earliest Spanish settlers, are also seen old trees, still vigorous. Walnut culture was confined to the southern counties until about half a century ago, and even then to small gardens in the missions, and the ranches of wealthy settlers. No attempt was made to use it commercially. The advantages of soil and climate were overlooked. Everyone raised stock. The "foreigners," as the early American settlers were called, began experimenting with a view to its commercial uses, and brought the plant further north. Mr. F. E. Kellogg was the pioneer of this branch of horticulture in Northern California. In 1848 he settled in Napa Valley, fifty miles north of San Francisco, and planted an orchard of Walnuts, taking the seed of the early "Mission" or "English" variety. Horticulturists are divided in opinion as to which is the better method of planting—the seed or the tree. Some contend that in transplanting the necessary cutting of some of the roots destroys the fruiting qualities and the growth of the tree. Transplanting has become the general practice of late by the large growers, who wish to realise as soon as possible on their investments. The shrub is ordinarily transplanted when two years old; in too many instances when three years old. The best crops, however, are grown from the trees which have sprung from the seed. Walnuts are one of the most tasty and nutritious of nuts. Indeed, the only fault that can be found with them is that they are so seductive that you never know when to leave off eating them. There are many ways of serving them up, some people preferring them with salt, considering that the flavour is rendered more piquant thereby. One thing is certain, growers are producing better fruits now than they have ever done before.

Observer's Notes.

I saw on Monday Blackthorn (*Prunus spinosa*) in bloom. This, I think, is a very early date.—W. J.

[The Blackthorn was also noted in flower at Stanstead, in Essex, last Sunday.—ED.]

Societies.

Royal Meteorological.

The monthly meeting of this Society was held on Wednesday evening, the 19th ult., at the Institution of Civil Engineers. Mr. W. H. Dines, president, in the chair. Mr. W. N. Shaw, F.R.S., read a paper on "La Lune Mange les Nuages," which was really a note on the thermal relations of floating clouds. He also exhibited an arrangement of apparatus whereby the conditions applicable in the case of a floating cloud can be experimentally realised. Mr. F. J. Brodie read a paper on "The Prevalence of Gales on the Coasts of the British Islands during the Thirty Years—1871-1900." The total number of gales of all kinds dealt with during the period was 1,455, the yearly average being 48.5, of which 106 were severe. The worst year was 1883, while the quietest was 1889. The stormiest month was January, 1890. At all seasons of the year excepting the summer the prevalence of gales from south-west is greater than from any other quarter. The minimum of such gales is reached in the spring, when rather less than 20 per cent. are from south-west, more than half the storms being, however, from points between south-west and north-west. The prevalence of gales from Polar directions is then at its maximum, more than 21 per cent. blowing from points between north and east; in the spring of 1883, out of a total of eleven gales, no fewer than seven were from these quarters, the proportion being about three times the average. The highest velocities recorded were those at Fleetwood during the westerly gales on December 22, 1894, and on January 12, 1899. On the former occasion for nine hours, from 7 a.m. to 3 p.m., the mean velocity was 64 miles per hour, and at 9 a.m. it reached a maximum of 78 miles. It appears that on the average 43 per cent. of the storm systems which visit our coasts advance from some point of the compass lying between south and south-west, and travel towards some point lying between north and north-east. 39 per cent. have an easterly motion, while less than 1 per cent. move westwards. A mean of 264 cases shows that the deep cyclonic systems which visit our islands travel on an average at the rate of 24.1 miles per hour; in some cases, however, the rate was not more than 8 or 10 miles, while in others it amounted to 40.50, and even 60 miles per hour. The author concluded his paper by exhibiting a series of weather maps showing the progress of some of the most notable gales during the period covered by the discussion.

Birmingham Gardeners' Mutual Improvement.

Terse and versatile was the dissertation afforded by Mr. R. I. Hamill, manager, The Vineries, Aeocks Green, to the members of this association on the 24th ult. Considering Mr. Hamill's recent election as a member of the society, and the relative nature of the subject in question, considerable anticipation had been evinced by the members, and of whom, unfortunately, there was but a sparse attendance, chiefly owing to the untoward state of the weather. In his preliminary remarks the lecturer alluded to his long connection with horticultural associations and exhibitions, and the interest he had taken in them at least justified him in presuming to expound his own views thereon, and deplored the fact that there existed a certain lack of interest evinced in attending the meetings, more especially by the younger members of the fraternity, and for whose benefit the mutual improvement associations were principally convened. He was afraid that the attractions and amusements of large towns were mainly responsible for the defections indicated; but it was observed that where those who had devoted their spare time to the improvement of their education in horticultural literature and science they rapidly obtained a position in the front ranks of the profession. Horticultural exhibitions were also commented upon by the essayist, and he strongly advocated the necessity of introducing as much novelty as possible in the several classes, with the view of continuing the interest of the visitors to the exhibitions. Reverting to gardeners as a class, he regretted to have to acknowledge that, so far as his own experience went, they were selfish in the way of imparting their professional knowledge and secrets to others—an opinion which was strongly resented by the chairman, Mr. Walter Jones, and who had had a long life experience to the contrary, and instanced the fact that, for instance, artisans were as a rule very reticent in imparting their knowledge or disclosing the secrets of their handicraft to outsiders, whereas gardeners, as a rule, willingly diffused, either amongst their confraternity or others, any knowledge connected with their profession, and felt a pleasure in so doing. The lecturer, however, intimated that, "though convinced against his will, was of the same opinion still," "what he had said, he had said," "and had nothing to retract" from his ipse dixit, concerning this or other controversial cognate matter pertaining to his address. Mr. Hamill also remarked upon the rapidly increasing love of horticulture evinced by the public, and of the great interest taken in amateur gardeners' associations. An interesting discussion followed, in which

several of the members took part, and Mr. Hamill, in response to a hearty vote of thanks, said that he felt it a great privilege to become a member of the Birmingham Gardeners' Association. Mr. G. Bretherick, gardener at Stanley House, Perry Barr, near Birmingham, was awarded a certificate of merit for a small but interesting collection of winter flowering Begonias.

Chiswick Gardeners' Mutual Improvement.

The members of the above association were entertained on March 20 by a very pleasant retrospect of English Horticulture in a paper entitled "Gardening, Past and Present," by Mr. J. Harrison Dick of the *Journal of Horticulture*. Mr. Harrison Dick traced the craft from the time of the Roman Invasion, through its various vicissitudes in the country's troublous times, to the time of the Tudors, on through Elizabeth's time to the true era of formal gardens and statuary, and to the gardens of the present day. Mention was made of the fruits in use at various periods, e.g., Apples, Chestnuts, Cherries, and Peaches, &c., in the early part of the fourteenth century, and the impulse horticulture received during the reigns of Henry VIII. and Elizabeth, calling attention to Cardinal Wolsey's great garden at Hampton Court. Tribute was paid to such names as Tusser, Gerard, Gesner, the Swiss botanist, the Tradescants, Parkinson, Evelyn, and others. A résumé of the exploration of other lands as they have become accessible was given, and the firms of London and Wise, Lee and Kennedy of Hammersmith; Russell of Lewisham, John Abercrombie of Hackney, &c., were not omitted. A brief sketch of the life history of the Royal Horticultural Society was given, and attention called to the plants imported by the Society by means of their travellers early in last century. After this very instructive paper, of such general interest, a discussion was opened by Mr. Humphreys, and sustained by Messrs. Dawe, Gammel, Sillitoe, and others. The meeting closed with a very hearty vote of thanks to Mr. Harrison Dick.—C. H. Buck.

Grassendale and Aigburth Horticultural.

The twelfth annual show of the above society was held in the Parish Room on Wednesday, the 19th ult. There was a beautiful display of bulbs and hardy forced plants, which reflected great credit upon the exhibitors of this district, and, generally speaking, the exhibits were quite equal to those of previous years. Keen competition was shown in the Hyacinth classes, inasmuch the judges decided to award a special prize in the class for six pots of this favourite flower. Double Tulips were shown in a creditable manner; the single varieties were much below the average. Nareissus, Amaryllis, Cinerarias, and Cyclamen were all features of this show, and, although few in number, they showed the highest cultural skill. The sub-committee are to be congratulated on the effectiveness shown in the general arrangement of the show, and considering the room at their disposal, the general view was pleasing to look upon. The following is the list of prizes:—Twelve Hyacinths (distinct): First, R. P. Houston, Esq., M.P., The Lawn, Aigburth (gardener, J. Heaton); second, W. C. Atkinson, Esq., St. Anne's Road, Aigburth (gardener, J. Madeley); third, Mrs. Duncan. Six Hyacinths (distinct): First, W. G. Davey, Esq., Homeleigh, Grassendale (gardener, G. Leadbeater); second, R. P. Houston, Esq.; third, W. C. Atkinson, Esq. Six pots Hyacinths, three bulbs in a pot, not less than three var.: First, W. G. Davey, Esq.; second, H. A. Sanderson, Esq., Holmfield House, Mossley Hill (gardener, R. Dickinson); third, W. B. Bowring, Esq., Beechwood Road, Grassendale (gardener, T. Ankers); extra prize, W. C. Atkinson, Esq. Three pots of Hyacinths, three bulbs in a pot, any variety: First, W. G. Davey, Esq.; second, H. A. Sanderson, Esq.; third, Mrs. Truesdale (gardener, T. Latham). Six pots Nareissus, not less than three var., not to exceed 8 in pots: First, Mrs. Duncan, Prizett, South Bank Road (gardener, F. Keightley); second, Mrs. Gilbert Moss, The Beach, Aigburth (gardener, T. Johnson); third, W. G. Davey, Esq. Six pots single Tulips: First, Mrs. Lockett (gardener, W. Evans); second, R. P. Houston; third, W. B. Bowring. Six pots Double Tulips: First, Mrs. Duncan; second, W. G. Davey, Esq.; third, H. A. Sanderson, Esq. Four pots Amaryllis: First, Mrs. G. Moss; second, W. B. Bowring, Esq.; third, Mrs. Duncan. One stove plant: First, Mrs. Lockett; second, T. McClelland, Esq. (gardener, W. Bustard). One greenhouse plant in flower: First, A. Garnett, Esq. (gardener, H. Clark); second, W. C. Atkinson, Esq.; third, Mrs. Duncan. Two Orchids: First, Mrs. Duncan; second, W. G. Davey, Esq.; third, W. C. Atkinson, Esq. One Orchid: First, W. C. Atkinson, Esq.; second, W. G. Davey, Esq.; third, Mrs. Duncan. One Fern: First, Mrs. Lockett; second, Mrs. Truesdale; third, T. McClelland, Esq. One Azalea: First, Mrs. Duncan; second, Mrs. Lockett; third, T. McClelland, Esq. Three Azaleas (distinct): First, W. G. Davey, Esq.; second, Mrs. Duncan; third, Mrs. Lockett. One hardy Rhododendron: First, W. G. Davey, Esq.; second, Mrs. Lockett; third, T. McClelland, Esq. One greenhouse Rhododendron: First, Mrs. Lockett. One Rose, in pot: First, T. McClelland, Esq., St. James' Mount, Aigburth. Three forced:

hardy plants: First, Mrs. Lockett; second, W. G. Davey, Esq.; third, Mrs. Duncan. One Palm: First, W. G. Davey, Esq.; second, W. B. Bowering, Esq. Two Palms: First, W. G. Davey, Esq.; second, Mrs. Duncan. Four Cinerarias: First, R. P. Houston, Esq., M.P.; second, Mrs. Lockett. Four Primulas: First, Mrs. Lockett; second, T. R. Cross, Esq. Four pots Lily of Valley: First, W. C. Atkinson, Esq.; second, Mrs. Lockett. Four pots Cyclamen: First, Mrs. Lockett; second, Mrs. Duncan. Three Spiræas: First, W. C. Atkinson, Esq.; second, Mrs. Duncan. Five table plants: First, R. P. Houston, Esq., M.P.; second, Mrs. Duncan. One hardy Azalea (*amœna* excluded): First, Mrs. Duncan; second, W. G. Davey, Esq. One bouquet: First, R. P. Houston, Esq., M.P.; second, T. McClelland, Esq. Four pots Herbaceous plants: First, W. G. Davey, Esq.; second, Mrs. Lockett. Two pots of Callas: First, H. H. Hornby, Esq.; second, R. P. Houston, Esq.

Paignton Gardeners'.

At the monthly meeting, held on the 20th ult., Mr. Edwards read a paper on Violets to the members. He referred to the number of admirers the Violet had in Paignton, and said, after experiencing many difficulties, he was able to produce Violets six months in the year. The soil best suited for cultivation was a good light loam enriched with good cow manure for preference. The best position for the summer quarters was on a plot of land facing south, where the plants could have the benefit of the sun as long as possible, so that they were well ripened up to withstand the winter, and would flower better and give larger flowers with a better substance in the stalk of the flower. He believed it to be very important to have well ripened wood in the plants by September, especially if required for frame work or pot cultivation. Should the garden be on raised land, or have a sloping position likely to suffer from drought, it would be necessary to plant the Violets where they would get a little shade in the early part of the day. Mr. Edwards then dealt at length with the planting of Violets, and then went on to speak of frame culture and potting. Violets were liable to attacks of several species of fungi, which grew on the stems and leaves of the plant, and on the sepals and petals of the flowers. The speaker enumerated several of these, and then gave the names of several varieties of Violets and their raisers' names. Mr. Edwards brought for members' inspection a very interesting collection of varieties, including *La France*, *Baron de Rothschild*, *Admiral Avallan*, *Madame A. Pages*, *Mrs. J. J. Astor*, *Comte de Brazza*, *Neapolitan*, *Sulphurea*, *Princess de Sumonte*, and *Lady H. Campbell*. A good discussion followed, in which Messrs. Chandler, Elliott, Foster, Sanders, Gard, and Jeffries took part, the latter explaining that Violet leaves are said to be good for cancer. On the proposition of Mr. Chandler, seconded by Mr. Lloyd, a hearty vote of thanks was passed to Mr. Edwards, who returned thanks.

Reading Gardeners'.

Although the weather was very unpropitious, yet there was a good attendance of members at the last meeting of the above association, when Mr. W. Townsend, of The Gardens, Sandhurst Lodge, Wellington College Station, read a most practical and interesting paper on "Hardy Flowering Shrubs and Trees for Forcing," a department of horticulture in which this gardener excels. In introducing the subject, Mr. Townsend said that these hardy flowering shrubs and trees well deserve to be more extensively grown for arranging in conservatories, show-houses, greenhouses, halls, &c., so as to give that delightful spring and early summer-like appearance we all so much enjoy in trees and shrubs. Full cultural directions as to preparing the plants for forcing and after treatment were touched upon, and the best varieties for the purpose were given, which included *Azaleas*, *Andromedas*, *Amygdalus*, *Cerasus*, *Cornus*, *Cratægus*, *Cydonias*, *Laburnums*, *Lilæas*, *Loniceras*, *Magnolias*, *Deutzias*, *Prunus*, *Spiræas*, *Staphyleas*, &c., &c. Many questions were asked, and an interesting discussion followed, in which Messrs. Stanton, Judd, Lever, Powell, Cretchley, House, Alexander, Prince, Clinch, Bassel, and Fry took part. One of the finest displays of flowers ever seen at these meetings was that made by the following members on this occasion, viz.:—Honorary exhibits: Mr. Townsend, including flowering sprays of twenty-five of the varieties of hardy flowering trees and shrubs mentioned in the lecture; Mr. J. W. Tims (gardener to Mrs. Simonds), a double-spathed *Arum*. The entries for the Certificates were made by Mr. E. S. Pigg (gardener to J. T. Strange, Esq., Aldermaston), group of flowering plants, including a beautiful bank of *Van Zion*, *Princeps*, and *Golden Spur Narcissi*, *Cineraria*, greenhouse and star types, *Hyacinths*, and *Azaleas*; Mr. F. Lever, The Gardens, Hillside, a group of flowering bulbs, including *Hyacinths*, double and single *Tulips*, *Narcissi*, and *Jonquils*; Mr. House (gardener to W. Pole-Routh, Esq., Oakfield), three magnificent specimens of *Deutzia gracilis*, measuring a yard through; and Mr. W. G. Pigg, The Gardens, Treveroli, Maidenhead, a choice piece of *Dendrobium nobile*. A hearty vote of thanks was accorded to the lecturer and exhibitors. Three new members were elected.

Bristol Gardeners' Association.

The closing meeting for the winter session of this society was held at St. John's Rooms on Thursday evening last. Mr. Binfield occupied the chair. The subject for the evening was "Good Vegetables," by Mr. Lee, The Gardens, Claremont, Westbury-on-Trym, who dealt in a very able and practical way with the cultivation of the Potato, Cabbage, Turnip, Tomato, Vegetable Marrow, and Rhubarb. The choice of soil, he remarked, was one of the chief points in the successful cultivation of all vegetables, and which should at all times be taken into account. Mr. Lee replied to several questions in a masterly way, and was heartily thanked by those present for his excellent lecture. The prizes for the evening were given by Mr. W. A. Garaway for three heads of spring Cabbage, and were awarded to: First, Colonel Goss (gardener, Mr. Shaddick); second, Mr. Young; Certificates of Merit went to Lady Cave (gardener, Mr. Poole, F.R.H.S.), for a collection of Kale, Cabbages, and Apples; to Mr. H. Daniel (gardener, Mr. Quick), for *Dendrobium Devonianum*; and one each to Mr. Gornish and Mr. A. Baker (gardener, Mr. Orchard), for collections of Onions. The Society's Special Certificates of Merit were recommended to Mrs. A. Hall (gardener, Mr. Ware), for a fine specimen of *Cœlogyne cristata*, and to Mr. Gilbert Howes (gardener, Mr. White) for three Orchids of special merit. A feature of the evening was an excellent collection of standard Lilacs, Spiræas (two new varieties), and a very fine double *Staphylea*, sent by Messrs. Garaway and Co., Durdham Down Nurseries, covered with a mass of beautiful blooms, for which they were voted the best thanks of the meeting. The annual business meeting of the association is fixed for April 24, when it is hoped to have a full muster of members, as also any others who are interested in any way with the horticultural interests of the district.—H. K.

Binfield and District Horticultural.

This society held its fortnightly meeting on Tuesday, March 25. There was a very good attendance of members. Miss Shaen, who so kindly lends her Iron Room for the use of the members, was present, and evidently took great interest in the proceedings. Mr. E. Bungay occupied the chair. After the preliminary business, which included the receipt of a very handsome donation from Miss Shaen, had been disposed of, Mr. Elsey read a paper on "The Cultivation of the Melon." The paper was very ably rendered, and caused so much interest that the best part of the evening was spent in a controversy over this interesting subject. A method of artificial "netting" of the Melon was "givin' away," and caused amusement by one of the members. This paper was followed by one from Mr. Ashman on "Grafting," a subject very applicable to the present season. Mr. Ashman is evidently well qualified to impart to others the knowledge he possesses, and upon this occasion we think he surpassed himself. He not only gave lucid and interesting directions how to inoculate or graft, but exhibited specimens of nearly every description of grafting, from the very commencement of preparing the stock to the insertion of the scion, and afterwards securing same from the effects of the air and winds. These models were beautifully made, and showed the imprint of the master hand. He very kindly presented them to the society. After a vote of thanks to Messrs. Elsey and Ashman the proceedings terminated.

Strawberries in Pots.

The season of forced Strawberries is, or soon will be, at its height, and labour of attendance in watering at its maximum. I find it necessary to examine the plants three times a day—morning, noon, and evening—during bright weather, and whenever a plant needs water giving a thorough supply. East winds are usually very prevalent in spring time, when air must be cautiously admitted, as the fruit is liable to become brown and cease swelling when exposed in its early stages to currents of cold, dry air. The plants should be at a greater distance from the glass than earlier in the season, so as to allow of a free circulation of air between the leaves and the glass. Plants that are to give very fine fruits should not only be those showing the largest flowers, but these must be thinned to about a dozen or so on each plant before they expand. Bring them forward in a gentle heat in the first stages of swelling, affording an abundance of atmospheric moisture so long as the fruit remains green. When it becomes whitish-green increase the temperature gradually to 80deg, 85deg, or 90deg on sunny days, keeping through the night at 60deg, maintaining 65deg, 70deg, or 75deg on dull days. Continue this until the fruit becomes red all over, when the temperature should be lowered to a minimum of 60deg, in which they will increase considerably in size after they are apparently ripe, and to secure high flavour a free circulation of rather dry air must be maintained, watering only at the roots to keep the foliage fresh.—G. A.

THE BEE-KEEPER.

Spring Examination.

Now that fresh honey and pollen are obtainable, their effect in promoting breeding will soon be noticeable, and as increased activity means additional consumption of food, a superficial examination of every stock should be made periodically to ascertain if there is sufficient, while such a great inequality exists between the internal demand and the external supply. Turn back the quilts until half the frames are exposed; at the same time give a whiff of smoke. Carefully separate the combs a little, and if brood and sealed stores are present, the colony may be considered safe until it can be thoroughly overhauled. In this condition they will progress as well as possible, probably better than by interference. It is not advisable to fully examine any colony which is on less than five bars yet, as, except in experienced hands, exposure of brood to a lower temperature than 60deg is fatal. Where the main harvest is dependent upon the Clover, the beginning of May will be soon enough to stimulate for rapid brood raising. If the main honey flow requires the bees to be strong in the early part of the year, it is necessary to create a mild form of excitement among them, which is done by gentle and continuous feeding, which increases the temperature and stimulates the queen to more rapid ovipositing, and the brood nest expands accordingly. The quantity of syrup sufficient to maintain an average colony is half a pint daily, and this must be continued until the bees are able to obtain a sufficient supply from natural sources, which is usually indicated by their neglect of the feeder.

Where food is plentiful uncapping a small portion of the sealed stores from time to time will have a similar stimulative effect. As one of the main essentials to rapid increase is warmth, those who have recourse to the plan of early brood rearing will perceive the advantage of adopting any device which will economise the heat generated by the cluster. The space should be contracted to that which the bees actually occupy; entrances should be reduced to within an inch, warm wrappings added to and packed down tightly to prevent upward ventilation. In cool weather food should always be given warm, in a stage and bottle feeder. It is useless attempting to stimulate so early with any kind of feeder which forces the bees to leave the cluster. By the use of the stage and bottle no loss of heat is occasioned. The destructive effect of exposure to cold is avoided by enabling the bees to partake of the syrup without breaking the cluster. This method of spring feeding prevents many impediments to the regular increase and welfare of a stock.

Should a colony not carry pollen in briskly, or the bees be observed carrying half-sized pellets, or walking about the alighting board listlessly, queenlessness should be suspected. If, on examination, this is found to be the case, the queenless bees may be utilised by uniting to a weak lot. The simplest and most effectual plan of uniting is first to induce the bees to fill themselves with honey. This is accomplished by a few puffs of smoke at the entrance and leaving them for a minute or two, after which the combs and the adhering bees may be taken out and alternated with those of the receiving hive, covered up, and left undisturbed for a day or two. A different sized or shaped alighting board will prevent confusion and make the bees mark their position afresh.—E. E.

Trade Notes.

It is our pleasing duty to record that Mr. James Baldin, late manager of Messrs. John Pope and Sons' Market Hall business, Birmingham, has entered into partnership with Mr. S. W. Spicer, successor to the old-established general seed firm of Freer and Co., Digbeth, Birmingham, and that the employés at Messrs. Pope's presented to Mr. Baldin a handsome token in recognition of the uniformly courteous bearing he had evinced towards them during the upwards of two years of his engagement there. He is succeeded by Mr. T. C. Roberts, from Messrs. Barr and Sons, London.

Seeds for South Africa.

The dreary monotony of life in the South African blockhouses will be enlivened and relieved by the kindly thought and generous consideration of Messrs. Sutton and Sons, the well-known seedsmen, of Reading, who are sending as a Coronation Gift a presentation box of both vegetable and flower seeds to each of the long line of blockhouses erected by our patient, hard-working soldiers in South Africa, in all 55,000 packages. Messrs. Sutton and Sons were fortunate enough to secure the active sympathy of Colonel Sir Howard Vincent, M.P., who has been greatly interested in the scheme, and through him they conveyed their offer to the War Office. Lord Roberts, the Commander-in-Chief, and Mr. Broderick, the Secretary of State for War, have sanctioned the proposal, and have written gratefully accepting the present on behalf of Lord Kitchener and the Army in South Africa.



WORK FOR THE WEEK.

Hardy Fruit Garden.

MULCHING STRAWBERRIES.—The ground between the rows of Strawberries having received frequent hoeings to break down the lumpy soil and destroy seedling weeds, is ready, in the case of the oldest established beds, to have a dressing of farmyard manure laid moderately thickly between the plants. The object of doing this is twofold—to nourish the plants at a time when they are commencing active growth and preparing to develop strong trusses of flowers, and also to provide a clean resting bed for the fruit when it attains ripeness. For these reasons, therefore, it is apparent that farmyard manure is the best material to be employed, for not only does it contain all the essential elements of plant food, but being a mixture of long and short matter, the former will serve a useful purpose when the goodness has been washed out of the latter. Where this mulching may not contain enough fertilising matter for the demands of the plants, additional help can be afforded before placing on the mulching, giving either nitrate of soda $\frac{1}{2}$ oz to the square yard, or guano 1 oz to the square yard, or sprinkling soot among them at the rate of a peck to the rod. These are all nitrogenous manures and act quickly, hence their value at this season of the year. Care must be taken not to apply oftener than once or twice.

GRAFTING.—Grafting is an operation which is performed for the purpose of placing young heads on old trees. The old trees should, however, be healthy and capable of receiving the grafts in positions where the wood is smooth; hence in preparing the trees, which are termed, for the purposes of grafting, the stocks, the branches must be headed down to the most suitable parts. This is usually done some time during the winter, but a small portion may be taken off just previous to grafting, so that fresh bark and wood can be operated upon rather than old and dry. Grafting is next performed, and a union is more certain of being effected if carried out when the sap begins to rise freely in the stocks, this being known by the buds pushing freely. Crown grafting is the method generally preferred for large branches, or those more than 1 in in diameter. It is necessary to have clean, healthy, and dormant scions, preferably of last year's wood, the central portion of a ripe growth being the best, retaining four buds. Cut the lower edge of scion slantingly, making at the upper edge of the same cut a small shoulder which will rest on the top of the stock. The slit in the stock is made the same length as the prepared part of the scion, usually about 2 in long, cutting just through the bark downwards from the top. A neat and perfect union must be made by exactly joining the inner barks on both sides. Secure the grafts with raffia grass, and use some plastic grafting wax to cover all joinings and exclude air.

PROTECTING FRUIT BLOSSOM.—The means of readily protecting Apricots, Peaches, and Nectarines, when in bloom, is of great importance, as the weather often changes so quickly that it is important to cover them without delay. Rough and wet weather is equally as bad as frosty periods, and while such prevail give the necessary protection by drawing the blinds in front of the trees. They should be so fixed that they do not rest upon the branches.

PLANTING YOUNG FIG TREES.—Fig trees are not planted quite so early in the season as other fruit trees, the reason being that they are liable to be injured by frost. The site for Figs should be warm and sunny, the soil not rich but fertile, and of a calcareous character. Prepare a border about 6 ft in width, digging it well, but adding no manure. Lime rubbish can be incorporated should the soil not be of a calcareous nature. Maiden trees of one stem only are the best to plant. Such may be shortened to 15 in, and when new growth breaks a shoot on each side can be trained, and these again shortened the following year to increase the number of branches.

PRUNING ESTABLISHED FIG TREES.—The necessary pruning of old trees may be carried out now. Should the shoots be crowded, it is very important that thinning them out ought first to be done. Dispense with old, worn out, and weakly growths, retaining young and vigorous shoots, which lay in at full length, as fruit will be borne at the extremities. Regulate and dispose these so that eventually when the trees are in leaf no crowding results. Some amount of disbudding will also be necessary to further limit growth and prevent undue crowding. The leaves of Fig trees are large, so the growths must be regulated accordingly.

PLANTING.—The planting season must be brought to a close forthwith. Exercise care in the work in order to give the trees and bushes a fair start. Spring planting does not cause such

strong and vigorous growth as results from autumn planting, but if the rooting medium is kept moist by a light mulch throughout the summer, moderate growth will be made, especially if growth is pruned well back. The smaller the trees and bushes are, if they have no soil adhering to the roots, or cannot be lifted with a ball, the better. Strawberries and fibrous suckers of Raspberries will succeed planted now, but no fruit must be allowed the first season.—EAST KENT.

Fruit Forcing.

VINES: ANNUAL SYSTEM OF EARLY FORCING.—Although Vines in pots afford creditable early Grapes, better results are obtained by planting the Vines out in beds of 3ft to 4ft in width and 2ft in depth, so as to admit of 6in of rubble and a 3in layer of old mortar rubbish over it, and 15in depth of soil. To carry out the system successfully, light, well heated structures, facing south. Cut-back Vines, forwarded in another structure, are the most suitable. They may consist of Black Hamburgh, Buckland Sweetwater, Madresfield Court, and Foster's Seedling. They should be planted in their fruiting quarters by the early part of May, when the Vines that have fruited are cleared out, fresh soil being placed in the borders or beds, planting the new Vines, for fruiting the following year, 27in to 30in distance apart. As they will have made considerable progress, and be in 12in pots, turn them out with ball entire, firming the soil well about them. Turfy loam, with the addition of one-sixth of old mortar rubbish, a similar proportion of thoroughly rotted manure and one-twelfth of "nuts" charcoal forms a suitable compost. Extra food can be given in top-dressing or liquid form; the soil being firm, and the canes trained about 1ft from the glass will make shorter jointed wood. The laterals should be pinched at every joint of growth, and the cane stopped about 12in beyond where it is proposed to shorten it for fruiting, 6ft to 7ft 6in length of good cane being ample. Under good management the Vines will make stout canes, and being as much under control as Vines in pots, they can be matured so as to be ready for starting by late October or early in November to ripen Grapes in March or early in April. The root action being considerably extended as compared with Vines in pots, the crops are finer.

GRAPES RIPENING.—The fruit swells considerably after commencing to colour, therefore inside borders should have a thorough supply of water early on a fine day, ventilating early to allow excessive moisture to escape. With a full crop of Grapes the Vines, especially early forced, are severely taxed, and perfection in colour is not always attained. Much towards effecting a good finish may be done by a liberal and constant supply of warm, dry air, combined with a moderate low night temperature, say 60deg to 65deg, maintaining 70deg to 75deg by day, and advancing to 80deg, 85deg, or even 90deg, from sun heat. Red spider generally makes its appearance in early vineries. It may be kept from spreading by carefully removing the first assailants by means of a sponge moistened in softsoapy water. This is a tedious, but very effective means of keeping the pest from spreading. When the attack is general the hot-water pipes should be coated with a mixture of sulphur and skim milk, after heating them to 170deg or more, the house being closed, and the pipes kept hot for about an hour, when allow to fall to the ordinary heat. Do not overdo the vaporisation, as the sulphur fumes, when excessive, are liable to injure the skin of the Grapes, especially those of Frontignans and Muscat of Alexandria.

SUCCESSION HOUSES.—Stop and regulate laterals so as to secure an even spread of foliage without crowding, not tolerating any interference by laterals with the access of light and air to the principal leaves. Where there is not room for extension, it is unwise to allow them to grow considerably, so as to necessitate a large reduction of foliage at one time, as this results in a check to root action, which may, and often does, result in shanking at a later period. Attend to thinning the bunches and berries, under rather than over-cropping the Vines. Make sure that the borders have abundance of water. Vines swelling their crops should have a moist atmosphere, securing this by damping the paths two or three times a day, and sprinkling the borders when the surface becomes dry. If liquid manure be used at the last sprinkling for the day, it will improve the Vines and act as a check to red spider. Stable and cowhouse drainings, diluted with five times the bulk of water, or an ounce of Peruvian or Ichaboe guano to a gallon of water, is sufficiently strong for damping with, not more than a 4-gallon watering-canful to 30½ square yards, as an excess of ammonia vapour is injurious to the foliage of the Vines.

LATE VINES.—Disbud and tie down as they require it. Close the house early in the afternoon, with sun heat and ample atmospheric moisture by frequently damping the paths and similar surfaces. Vines that were started early in March are making rapid progress, and must receive every encouragement, but avoid hurrying their growth by a close atmosphere and high temperature, especially at night, ventilating judiciously early in the day so as to secure well formed, thick, leathery leaves.—ST. ALBANS.



* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

CAMELLIA LEAVES SPOTTED (J. W.).—The leaves are spotted in consequence of the sun's rays striking powerfully on them. The only remedy is to afford the plants slight shade from the time they commence growth until it is fully matured, or throughout the summer until October. Keeping the leaves constantly wet will also produce the same result; yours have the appearance of water having stood on them and dripped from the edges.

PLACING CAMELLIAS AND AZALEAS OUT OF DOORS (Idem).—They should be kept in moist heat until they have made fresh growth, and then have more light and air; when well hardened off and the buds set, they may be placed outside in a position sheltered from winds and shaded from the sun, but not by overhanging trees. A cool house with an east aspect is much better to keep the plants in after the buds are set than placing them out of doors. The *Eucharis amazonica* should at once be repotted, and grown in brisk heat with moisture. Use a compost of two parts turfy loam, and one part leaf soil, with a half part of sandy peat and a sixth of silver sand, chopping up rather fine, but not sifting; and afford good drainage.

ANTS IN STOVE AND CONSERVATORY (J. W. F.).—As you want something the ants will eat and then die, the following preparation may answer your purpose, but it must be used with the utmost caution, as it is a poison most fatal to animal life. Place 1oz of ordinary or white arsenic in an old iron pot with a quart of water, and then boil until reduced to a pint or a little more of liquid, to which add ½lb of coarse sugar, and mix well. This mixture can either be dropped about the runs and around the nests or placed in saucers in the haunts of the ants.

PEACH TREES CASTING THEIR FRUIT (J. M. W.).—The fruits are, as you say, affected at the kernel, this being discoloured, almost black. The dropping of Peaches and Nectarines in the first swelling and by or before they have attained to the size of marbles, usually arises from the combined effects of immature wood, imperfect formation, or fertilisation of the ovules, and a deficiency of starved matter in the adjacent wood. Two of the Peaches were perfect, and also the Nectarine. Sometimes the defect results from overcropping in the previous season, but commonly from the trees making soft, long-jointed wood, and from the soil not being of a sufficiently firm nature so as to induce sturdy, thoroughly solidified growths. In cases the fruit is cast as a result of a sudden check, such as that of an overdose of tobacco smoke or vapour, and in not a few instances from allowing the temperature to rise considerably in the morning and then admit air in such quantity as to cause a sudden depression, chilling and drying the atmosphere. The tree lifted from a late house, and being the same in casting its fruit, favours the deduction of the fruit dropping from immaturity of the wood and consequent imperfect formation and fertilisation.

INSECTS DESTROYING VINES (Subscriber).—The insect is a weevil, *Curculio picipes*, which is very injurious in a vinery. Spread a sheet beneath the Vine at night, and shake the Vine rod sharply, when the weevils will fall on to the sheet and may be destroyed. This repeated a few times will thin their numbers. We presume the Vines were stripped of their loose bark, and afterwards dressed in the usual manner, the walls being thoroughly whitewashed. Any holes or crevices in the wall should be stopped with cement. We cannot lay too much stress on your taking the weevils; every one you destroy will help to prevent egg-laying. The tobacco juice of the manufacturer diluted with six times its bulk of water is useful, applying it through a rosed watering pot; also the following:—4oz quassia chips, boiled ten minutes in a gallon of soft water, dissolving in it 4oz softsoap. Wet the surface of the whole house with this two or three times with this, especially near the walls, just after dusk, and the following day water the whole house with tepid water. Neither of the agents mentioned must be applied to the foliage of the Vines, but over any plants that will not be injured by the soft soap it may be syringed. We have also found useful sprinkling the floor of the house and border with guano, and then with water; if the floors, &c., are wet, sprinkling with water afterwards is unnecessary. If the Vines are in tender leaf a little air should be left on, as the ammonia evolved will scorch the leaves. Water well in the course of two or three days.

DRAINING GARDEN—MOSSY ORCHARD (Idem).—Though the subsoil is sandy loam, it may, nevertheless, require draining. Examine the ground by digging a hole to a depth of 4ft, and if you find water drain to a depth of 3ft 6in to 4ft. The soil of the mossy orchard is both wet and poor. Drain and dress with a compost of one ton of lime mixed with ten of soil or refuse, applying it in March or now.

PEAR AND APPLE TREES SURFACE ROOTING (Idem).—It is an excellent sign. Do not cover them with soil, or very lightly, but mulch around the trees 18in or 2ft from the stem with some rich compost or well-rotted manure, putting it on about half to three-quarters of an inch thick. We give ours fresh short manure, which we advise if the trees are not very vigorous and are bearing freely, applying it just after the bloom is past, and repeating the dressing at the beginning of July.

DESTROYING SLUGS (J. U.).—Apply nitrate of soda to the ground at the rate of 1lb to 30 sq yds, but before putting in the crops. We have no great difficulty with slugs, as we dress the ground with salt at the rate of twenty bushels per acre in March, or before cropping, and upon any appearance of the slugs we sprinkle the plants and the soil about them with quicklime early in the morning or at dusk, repeating the sprinkling as the lime is washed away by rains, or the slugs continue their depredations.

ORCHID CULTURE (Idem).—Of the two structures the better will be the Fern house, assigning them the lightest position, and keeping them there until the growth is complete, when we should remove them to the greenhouse, affording them the warmest position, but near the glass, and shading for a time from bright sun. Diminish the supply of moisture, and withdraw shade as the growths mature; keep the plants dry in winter, but not so much so as to cause the pseudobulbs to shrivel. They ought to be repotted at once.

HYACINTHS, TULIPS, AND SCILLAS AFTER FORCING (A. G.).—They should be kept in a cool house or pit in a light airy position until they are well hardened off and the weather is more settled; or about the middle of this month they may be planted out about 2in deep in light rich soil in a warm border. The Hyacinths and Scillas may remain there permanently, but the Tulips should be taken up when the tops become yellow, and after taking off these and the roots, place the bulbs in a dry cool place until November, when they may be planted in the border. They are not worth forcing a second time, but are good for borders.

HOYA CARNOSA AND TRACHYCARPUS EXCELSUS RE-POTTING (H. F. F.).—Repot now, using for the Hoya a compost of equal parts of fibrous loam and sandy peat (the cocoa-nut fibre refuse will do), and old cow dung, charcoal in lumps between the sizes of Hazel Nuts and Walnuts, broken bricks or crocks, and old lime rubbish, with good drainage. Place in the hot vinery until the growth is complete, and then afford a light airy position in the conservatory, and no more water than is sufficient to keep the plants from shrivelling. The Trachycarpus does best in a compost of sandy fibrous peat torn up roughly, three parts, and one part fibrous loam, with a half part in equal proportion of old dry cow dung, silver sand, and pieces of charcoal. The cocoanut refuse may be substituted for peat, adding a fourth of silver sand to it. It will succeed in the cool conservatory, being hardy in sheltered positions.

HEATING WITH HOT WATER (H.).—The house will be efficiently heated by two rows of 3in pipes, a flow and return along both sides of the house and across one end, which would be a better arrangement than having them along one side of the house only, as shown in your sketch, which would have answered well for a lean-to, and will do in your present case, only the pipes all round would give a more uniform warmth throughout the structure. We should have a frame made and enclose a portion of the pipes with brickwork, raising it about 9in above the pipes, which may be covered with slates, or have rubble placed over them to a depth of 6in; then put in about the same depth of plunging material. This will give you sufficient bottom heat for propagating most kinds of plants. The frame will enable you to keep the cuttings close and moist without interfering with the other occupants of the house. An elliptic boiler would no doubt answer; but take care to have one that will not from its smallness require to be hard driven to give the requisite heat to the pipes, for the waste of fuel is then enormous.

NAMES OF PLANTS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (G. B.).—1, Forsythia suspensa; 2, Nepeta Glechoma variegata; 3, Lyeaste aromatica; 4, Lonicera Standishi (flowering late); 5, probably Iris foetidissima, send when in flower; 6, Sempervivum tabulaforme; 7, Zamia sp. (Alf. L.).—The variety you mention as being like Narcissus sulphur Phoenix is the double form of N. ceruus; the other is an abnormal form of the Butter and Eggs Narcissus. (J. H. S. N.).—1, Acorus Pseudo-Acorus; 2, Hedera Helix lobata minor; 3, the Holm Oak, Quercus Ilex; 4, Parrotia japonica; 5, Cedrus atlantica.

NAMES OF FRUIT.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (E. C. H.).—Apple, Blanchard's Seedling.

Trade Catalogues Received.

David Airdrie, Florist, Whitehaugh Nursery, Paisley.—*Florists' Flowers.*

Wm. Clibran & Son, Altrincham.—*Plants.*

F. A. Haage, jun., Cacti and Succulent Specialist, Erfurt, Germany.—*Choice Cacti.*

Amos Perry, Hardy Plant Farm, Winchmore Hill, London.—*Parts 1, 2, and 3, of Hardy Plants and Shrubs.*

Charles Turner, The Royal Nurseries, Slough.—*Stove and Greenhouse Plants.*

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1902. March.										
Sunday ...23	S.S.W.	deg. 40.9	deg. 38.6	deg. 51.4	deg. 28.3	Ins. —	deg. 41.4	deg. 44.3	deg. 45.2	deg. 19.4
Monday ...24	S.S.W.	43.2	38.8	46.6	31.0	0.17	42.2	44.1	45.2	21.6
Tuesday ...25	N.N.W.	42.2	37.9	49.4	39.8	—	42.6	43.9	45.0	37.2
Wed'sday 26	W.S.W.	40.2	37.2	53.1	31.5	0.17	41.8	43.9	45.0	20.8
Thursday 27	W.	52.9	49.5	58.6	38.9	—	43.1	43.8	45.0	37.0
Friday ...28	S.W.	46.7	44.5	57.3	43.5	—	45.2	44.5	45.0	33.0
Saturday 29	S.W.	47.1	44.7	55.4	38.5	0.11	45.4	45.2	45.0	28.3
MEANS ...		44.7	41.6	53.1	35.9	Total. 0.45	43.1	44.2	45.1	28.2

For the most part of the week the weather has been dull, with very cold nights, and rain on three days.



Our Transactions with Other Lands.

"Ivory, apes, and peacocks" were among the many articles of import during the reign of the great Solomon at Jerusalem. Ivory one could understand, and possibly the peacocks, as they may be considered ornamental. But why apes? We were always at a loss. What trade they had in those days, as far as a limited ship service allowed, and then there were the overland caravans from Egypt and the far Orient. A fairly central country was the kingdom of Israel and Judah, and a wise, commercially minded king at the head. Put Hiram's navy against some of our big shipping lines. What a mighty difference! Yet that little fleet, that dare not go far out of sight of land, was the forerunner of our great merchant service. We had need be monarchs of the sea; it is our best friend, our greatest ally.

Do our readers, in their weekly or daily papers, ever notice the phrase, "Breadstuffs afloat"? Reading for last week (just taking that week at random), we were very much struck by a list of the consignments which will ever now be landed at our various seaports. For this week we find the total quantities of grain and pulse on passage to us run somewhat thus: Wheat, 3,900,000 quarters; Flour-Wheat, 250,000 quarters; Maize, 370,000 quarters; Barley, 465,000 quarters; Beans, 8,000 quarters. And this grand contribution comes to us from United States, Australia, New Zealand, Argentine, India (Bombay, Karachi, Calcutta), Russia, and the Danube. The flour is French and Hungarian, with Australian and American patents, we suppose. That means fancy flours for best pastry making. What a debt we owe for breadstuffs! Not once a year, but practically every-

week! All sea borne. We had fancied, till we saw the report, that there was no room here for foreign Potatoes. They are so cheap, in many instances, that they cannot leave anything but loss for the grower, and yet we find our market has been invaded. How does the foreigner manage it, and how does he pay the carriage, too? Certainly, not many have come, but they have come.

Now we will take a longer space of time than a week, and see what is the money value of some of our food imports for the first two months of this year:

Cattle (alive) ...	£1,247,901
Beef and mutton ...	£6,167,403
Butter ...	£3,542,577
Margarine ...	£424,366
Cheese ...	£585,932
Condensed milk (unsweetened) ...	£20,952
Condensed milk (sweetened) ...	£283,765
Eggs ...	£881,985

Another big bill, and in it we see nothing of bacon, lard, preserved meats, fish, &c., all things that we do get in great quantities, and all things that can hardly be classed as luxuries, but necessities. We find Oats for half a year come to 3,439,662 quarters, and Peas 242,324 quarters. We cannot put our hands on any statistics of feeding stuffs, i.e., cakes, &c., but we may bear in mind that not only do we get cakes in abundance (American, Egyptian, Russian), but we also get quantities of the raw material, which is manufactured into cake here. The cotton seed and linseed are the principal imports, but there are also many others, what we may term fancy feeding stuffs, meals of various sorts, not forgetting the by products of Wheat, bran and sharps.

Then to pass on to fertilizers. What about guano? What about superphosphates? What about kainit? What about bonemeal? What about nitrate of soda, sulphate of ammonia? It is impossible to remember every item; the list is a long one. Canadian hay, we see too, is quoted, but we don't see quotations of foreign straw, though we believe it is in the market.

There is one item we wish far away, and that is the foreign wool. We can, and do, grow wool, and practically we can supply ourselves, and yet our clips are put on one side to make room for Colonial imports. We cannot sow our seeds (i.e., Clovers) without recourse to outside help. Of course, there is a reason. Here our climate is variable and is not so well fitted for the ripening and maturing of Clover seeds. We may have a fine, dry time, or we may not.

We hear of much fresh milk being imported, and the worst part of it is that whereas our dairies are subjected to the closest inspection, our milk tested and guaranteed, this foreign stuff comes in free and under no restrictions whatever. As to butter and eggs, they need an article to themselves; but we do wonder how eggs can be produced, packed, shipped, and re-sold here in mid-winter at a halfpenny each. We cannot afford them at that price in summer. Where do these halfpenny eggs come from, and what is the profit the original owner gets?

If we are indebted to the outsider for so much of our food, we are also indebted to him for many of our implements. Time is money in the States, and the Yankee has many 'cute notions. He makes his implements lighter than ours, and, at the same time, stronger. You have only to visit an agricultural show and cast a glimpse round the implements to see the truth of our assertion. It is not of moment to put into an implement the greatest possible weight of metal, and yet we think, when looking at some of our old "standards," that the artificer must have had this in view. Iron is good, therefore pile on the agony! Steel is better, lighter, and stronger, therefore, says the Yankee, substitute steel. Massey, Harris, and Deering binders are the machines in universal use, while Walter Woods, Harrison, Macgregor, and Macormick are equally well known. We can understand that with the wide acreage of the States and Canada, reapers of light draught are a necessity. Ploughs, cultivators of all descriptions, have come to us from America, from whence also have originated the chilled digging plough and spring tooth cultivator, the chilled digging plough associated with the name of Oliver. Some of the best types of horse hoes are also American, but the American fork is not so much in evidence as it used to be.

But enough of this. We receive, and at the same time we also give (for a consideration). It has been rightly stated that Great Britain may be looked upon as the great stud farm of the world. Whatever else we do, or do not do, we

can breed some of the best animals ever seen. This is partly the result of climate, but more, perhaps, the result of careful painstaking selection. There are many types we have made practically evolved out of our (shall we say it?) imagination. Where are the racehorses that equal ours? The courses at Epsom, and Doncaster, Goodwood, and Ascot are historical. Can any other country produce a hackney equal or approaching to Danegelt? And what of our shires and other heavy legged types? English blood will be found in all the four quarters of the globe. What would Australian, Argentine, and New Zealand wool and mutton be like were it not for our pure bred sires? They cannot do without us. And we find wherever agriculture is at all intelligently pursued, English blood is held to be of the first importance. It would be difficult now to find a land where the Shorthorn Hereford, Ayrshire, or other distinctive breed of cattle is not represented. We certainly top the world's market with our pedigree stock. This is the "Old Country," after all, and it is right we should take the first place thus.

Work on the Home Farm.

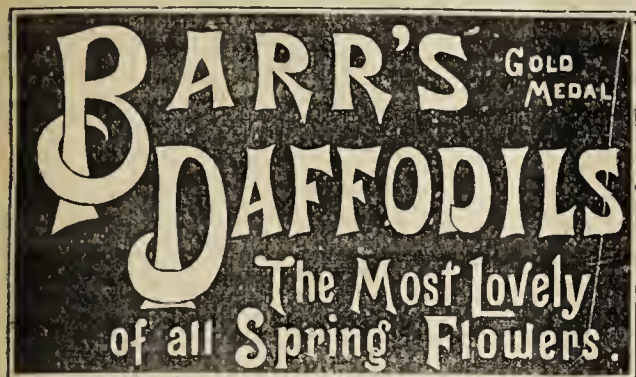
We have to chronicle another busy week. There has been more wind than rain, and with a good allowance of March dust everything has been favourable for farm work. Drilling is finished for the season, and seldom—nay, we might almost say never—has the seed-time been more satisfactory. If a good start be estimated at its proper value, the year's prospects are indeed good as regards spring corn. The period immediately before and after March 21 was marked by mild south-westerly winds and April-like showers. According to the old rule, therefore, we have a genial growing spring in store. We can do with one like that of 1894, when we had a record crop of Barley both straw and corn. The usual supply of artificial manure has been laid in. There was a poor return for it last season, but we must continue to use it, or there will soon be a deficiency in the crops. Poor as last year's were, excepting Potatoes, they were even worse on badly farmed land. We use a mixed manure for Potatoes, and it is sown broadcast and split in with the seed. We like this system best, as the manure is more thoroughly incorporated with the soil. Top-dressings applied in June have done very little good these dry seasons.

Clover seeds had better be sown at once if they have not been sown with the Barley already. Good seed sown now should make a good plant a certainty. What a loss a poor seed plant means to every farmer we are now experiencing to our sorrow. Now that the seeds are stocked with ewes and lambs we realise the nakedness of the land. If the fields are bare with one ewe per acre upon them, how will they be with three, which is the number they will be expected to carry? It is a poor look-out. To make matters worse, the early finishing of the Swedes has created too many demands on the Mangold heaps, which are rapidly dwindling. Stock must be fed, and the Mangolds must go, but we wish we could have kept some back for summer emergencies. It has been grand for the cattle out at grass. There is a nice bite for the time of year, and they are getting hardened off capitally. Indeed, the cloud has its silver lining. Pressure of other work has caused a considerable lull in the delivery of Potatoes, but it has had little effect on the trade. Supplies, if not quite so heavy, seem quite sufficient. Spring Cauliflowers about here have been very severely handled by the frost, and few have survived. A scarcity amongst green vegetables might help Potatoes a little, but our sources of supply are so numerous and widespread that there is not much to hope for in that direction.

Men are much more plentiful than last season. Farmers can get men, but they complain of the difficulty of paying them.

Publications Received.

The Society of St. George. Report of the General Committee, 1901. It is now generally conceded that sentiment of race, as exemplified during the present war, is, and must ever be, a great factor in any scheme for uniting and perpetuating our Empire. How to sustain and strengthen the Imperial spirit is the problem of the hour. This can best be done by the formation of Societies of St. George, working upon the lines of those which have for years existed in Canada, and of those recently founded under the constitution of this society, not only at home, but in Australasia, South Africa, and elsewhere. * * "The Canadian Horticulturist." Special Features: The Cranberry Pippin, Spraying, Fertility of Orchards, Gooseberry Cultivation. * * "Bulletin de la Société L'Avenir Horticole." Année, 1901. * * "Agricultural Returns, 1901." Tables showing the estimated total produce and average yield per acre of the principal crops, with particulars for each county of Great Britain, and a summary for the United Kingdom. * * "The Tropical Agriculturist," for March, 1902. * * "Cassell's Dictionary of Gardening," part xi., begins at Lawn Mowers and ends at Mammillaria. The number contains a coloured plate of Liliums.



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Journal of Horticulture.

THURSDAY, APRIL 10, 1902.

Remarks on Setting Grapes.



Fine berries are wanted, and most of us are ambitious to produce them, the foundation must be laid early in the season or before the flowering period.

Only those berries furnished with a full complement of seeds can be

depended upon to attain to the largest size, and weakly flowers were never yet followed by what are termed four-seeded or quartered fruit. We ought, therefore, to strive for as many berries with four seeds in them as possible, and to take good care when thinning to reserve these, not the smaller perfectly round berries, and which probably enough are furnished with one to three seeds only.

In very many instances the vines or rods are disposed too thickly, or less than 3 feet apart, and, to make matters worse, those in charge are in a great hurry to tie down the laterals. As a consequence the embryo bunches are shaded far more than desirable, and the flowers enfeebled, opening weakly accordingly. The young bunches in all cases, or whether the varieties are free setting or the opposite, ought to be exposed as much as possible to all the light and sunshine going, and if, owing to the closeness together of the rods they will not get this if the laterals are early fastened to the wires, the rods ought to be lowered temporarily, and the laterals allowed to remain in nearly a vertical position till after the flowering period. Not only does this favour perfect setting, but when tying down is deferred thus late, no risks are run of losing some of the laterals bearing the most promising bunches. If this plan were more often adopted we should see fewer miserably thin badly set bunches of Grapes generally, and all concerned have better reason for congratulating themselves upon the result of their labours.

READERS are requested to send notices of Gardening Appointments or Notes of Horticultural Interest, intimations of Meetings, Queries, and all Articles for Publication, officially to "THE EDITOR" at 12, Mitre Court Chambers, Fleet Street, London, E.C., and to no other person and to no other address

Muscat of Alexandria and other proverbially bad setting varieties not infrequently have more fuss made about them than is necessary, while those sorts with good reputations for setting are neglected more than desirable. A considerable increase of heat, both by night and day, is thought to be needed by Muscats during the flowering period; yet those who religiously carry out this detail are not invariably successful in effecting a good set. If they paid more attention to the other point I have raised—that of exposing the developing bunches to abundance of light and as much sun as possible, and attached less importance to high temperatures—they would most probably succeed oftener in producing an even crop of perfectly set bunches. This by no means novel notion was most forcibly brought home to me in a situation where the bulk of the Muscats ripened had to be grown in an old house heated with flues, in which were also rods of Black Hamburgh, Madresfield Court and Gros Guillaume. If any attempt had been made to raise the night temperature higher than 60deg to 65deg, other than on very mild nights, the flue where it entered the house would have become dangerously hot, and red spider also have gained an ascendancy. What may, therefore, be termed low temperatures were maintained; but, thanks to taking the precaution of well exposing the bunches and assisting in distributing the pollen, the set was perfect, many of the bunches gaining good prizes at Bath, Taunton, and elsewhere. Since that time I have been equally successful in effecting a good set in the case of Muscat of Alexandria growing in a house primarily devoted to Gros Colman, the latter only being really studied. These two varieties seem to go well together, and I have never yet experienced any difficulty in ripening them, Alicante, and other late Grapes in houses with Black Hamburgh, Madresfield Court, and Foster's Seedling without detriment to the three last named. In one famous Muscat house Gros Colman has been repeatedly tried on a small scale; but owing to the practice never departed from, of maintaining high temperatures for the benefit of the Muscats, the berries of Gros Colman when fully ripe were foxy red in colour. Mixed houses should be started early or about the middle of February with a view to ripening the crops at a time of the year when abundance of air can be admitted.

Without this the black varieties will not colour properly, and a free circulation of air during July, August, and early part of September is not injurious to the Muscats. Starting late Grapes thus early results naturally in comparative early maturation of crops, and gardeners who saw my Gros Colman well advanced in colouring by the end of August were disposed to think they would ripen too early for keeping. As a matter of fact, the berries on the bunches left on the third week in January were quite plump, and would have kept much later had there not been a brisk demand for them. When late Grapes ripen during the best part of the summer—this including, for my purpose, the first fortnight in September—the quality is bound to be better than in the case of the same varieties ripened later. Their keeping properties, thanks to the extra amount of sugar developed, are also more pronounced. Give Gros Colman fair play, or a good early start, and there would be fewer complaints or poorness of quality. Time, air, and sunshine effectually get rid of the objectionable Ivy-like taste observable in faultily ripened examples.

After this digression, and which was not contemplated at the outset, I propose to complete my remarks upon setting Grapes, adding a few brief comments on reducing the number of bunches. Although I fail to see the necessity for high temperatures during the flowering period of any popular Grape, I would yet warn my inexperienced readers against resorting to the other extreme. Low night temperatures, ranging, say, from 40deg to 50deg, and following, as often is the case, upon clear days, are more or less injurious. Much moisture collects on the leaves, and with the morning sun striking early on the houses, rapid evaporation frequently ends in the scalding of the leaves.

At the extreme end of a compartment of the aforementioned flue-heated vinery three rods of Gros Maroc were located, and owing to the coldness (unavoidable) of the flue at that point, and a comparative low temperature of the compartment generally, many of the best leaves "damped" off, to the no small injury of the Vines. Gros Colman and extra strong Black Hamburgh leaves are also liable to injury from the same causes, added to which low temperatures militate against a good set of berries. A night temperature

of 55deg to 60deg up to the flowering period, with an increase of 5deg on mild nights, accompanied by a chink of top air when the bunches are flowering, answers well in my long span-roofed house. In reality I pay little heed to the thermometer. If the house and hot-water pipes feel comfortably warm at 10 p.m. I am content. A current of warm dry air, brought about by opening the top ventilators only, and more or less wide, according to the state of the weather, with gentle warmth in the hot-water pipes, dries the flowers early, and about 11 a.m. the pollen distributes freely if the laterals carrying the bunches, or even the rods only, are smartly tapped at that hour rather than later. The pollen should be dust dry, but the stigmas moist enough to hold all of this that collects on it. That is all that is really necessary in the case of Muscat of Alexandria; but those who are at all doubtful and anxious may try the effects of gently passing the bunches through the soft palm of the left hand. The latter proceeding is absolutely necessary in the case of the worthless, shy-setting, if not manipulated, Alnwick Seedling. Because I want as many large perfectly-set berries as possible, the precaution is taken of tapping the rods of all other varieties grown.

One grower of my acquaintance, who has been very successful with the Muscat of Alexandria, ceases topping the sub-laterals for about a week prior to the flowering period and till after the berries set, under the impression that a diversion of some of the Vines' energies away from the bunches is favourable to a good set. It is regarded as a safety valve or a preventive of too much viscid matter collecting at the stigmas. This view of the case is a little chimerical. Personally I am averse to wasting Vines' energies on the production of superfluous growth, and rarely delay topping either laterals or sub-laterals long enough to hinder carrying out this operation with the finger and thumb. Besides, I want the daylight to reach the bunches. If too much moisture collects on the stigmas it can easily be removed, as before hinted, with the soft palm of a hand. Nor do I believe in the practice of leaving far more bunches than it is intended to finally reserve till after the thinning of berries is nearly or quite completed. Each time I pass through my vineries during April and the early part of May I rarely fail to pinch off a few or many superfluous "shows," an early and severe reduction in their number greatly benefiting those reserved.—W. IGGULDEN.

Harmonising Colours.

The question of satisfactorily arranging or harmonising colours together is an important one in placing out bedding plants, as nothing tends to so upset the decided tastes of cultured or artistic persons as inharmonious blending of colours. Colours are divided into two classes, which may be termed warm and cold colours, one class being complementary to the other. For instance, the warm colours are red, purple, and orange. The cold colours are green, blue, and yellow. White goes with, or is complementary to, any colour. In arranging colours, use together red and green, or red and white; purple and yellow or white; orange and blue or white. Red and blue will harmonise well with white between.

Beds filled with warm coloured flowering plants are attractive on grass, and if any other colour is introduced let it be an edging or band of white next the grass. The cold colours would not "come up" satisfactorily on grass, unless an edging of one of the warm colours was used, then a splendid effect could be obtained; in short, if the centre of the bed is filled with green, blue, or yellow, use edging of red, orange, or purple respectively. White may come in between any one colour without causing any ill effect, except perhaps it does not associate quite so well with yellow.

The effect produced by dark-leaved Cannas and the yellow or golden-leaved Abutilons is very pleasing. With these Ivy-leaved Pelargoniums would associate. White Violas as a groundwork, with Heliotropes and Fuchsias dotted about at fairly wide distances apart, are most effective. The mixture of colours afforded by a row of Sweet Peas usually makes an excellent display. Besides the principal colours, there are usually abundant shades. By observing the natural arrangement of colours in flowers much may be learned as regards artificial blending. In arranging a border, the colours may be placed in the following order:—Red, white, yellow; purple, orange, blue.—E. D. S.



Odontoglossum Adrianæ Mrs. Robert Benson.

Undoubtedly this variety of *O. Adrianæ* is one of the finest and most handsome yet raised. On February 26 last year Captain Holford gained an Award of Merit for a specimen flower shown before the Orchid Committee, but after a year's growth and careful, kindly treatment, he was again able to produce another splendidly flowered plant this year (having a raceme of fifteen flowers), on March 25, and so much improvement was evidenced that the higher award, the First Class Certificate, was on this occasion bestowed. The ground colour is yellow or tea coloured, barred and blotched with bright chestnut brown. Our illustration is from a sketch by Mr. George Shayler.

Zygo-Colax × Wiganianus superbus.

At the Drill Hall meeting of the Royal Horticultural Society on February 25 last, Messrs. Sander and Sons, St. Albans, showed this improved form of a previous bigeneric hybrid. *Zygo-Colax* × *Wiganianus* was certificated in January, 1900, when exhibited by Sir Frederick Wigan Bart., the parentage being *Zygopetalum intermedium* × *Colax jugosus* (syn. *Lycaste jugosa*). The new and improved form was evidently from the finest forms of each species, and so handsome was it that the Orchid Committee unanimously accorded it a First Class Certificate. The substance of the flower is great, and the markings very beautiful. The lip is violet blue with a white ground colour showing through towards the margin. The light green sepals and petals are marked with chocolate purple. Doubtless when larger plants are developed this will become an interesting addition to collections.

The Week's Cultural Notes.

It is rather early to be speaking of rebasketing and repotting *Phalænopsis*, but the time is close at hand, and it is well to be prepared in good time. A stock of baskets, pots, and other receptacles will, of course, be prepared by now, and plenty of fresh growing sphagnum moss, as these beautiful Orchids do not relish peat, loam, or other clogging substances, the roots being extremely sensitive and easily injured. All being in readiness, a start may be made with them at the end of April or the beginning of May, giving priority to those plants that are most forward with the roots.

Many, of course, will only need a little tidying up and top-dressing; some will need nearly the whole of the old compost removing and new substituting; while a few will have to have new receptacles, either because they have outgrown the old ones or, in the case of wood baskets, these are decayed. It will sometimes be more convenient to place the old basket entire into the new one, first of all removing any decayed portions with a keen

knife, and filling up the space between the new basket and the old with charcoal and sphagnum. In such cases as these the plant is not greatly disturbed, but when the roots have become entwined about the rods of the basket, the work of removal must be very carefully done or the plants will be much distressed.

Before commencing to disturb the roots a thorough soaking in warm water is advisable, the roots then parting from the wood easily, or at all events, more easily than when dry. A thin strip of wood or a portion of the rod may be left with the root adhering and placed in the new material where it is difficult to detach them, but as far as possible remove all the old wood. A small mound of crocks may be built up in the new basket, placing the largest pieces on the bottom, and on this the plant should



Zygo-Colax × Wiganianus superbus.

Natural size, green with purple spots, blue lip.

rest, sinking being thereby prevented. Only a very thin layer of moss need be given, using in all cases fresh growing points, not the older white portions.

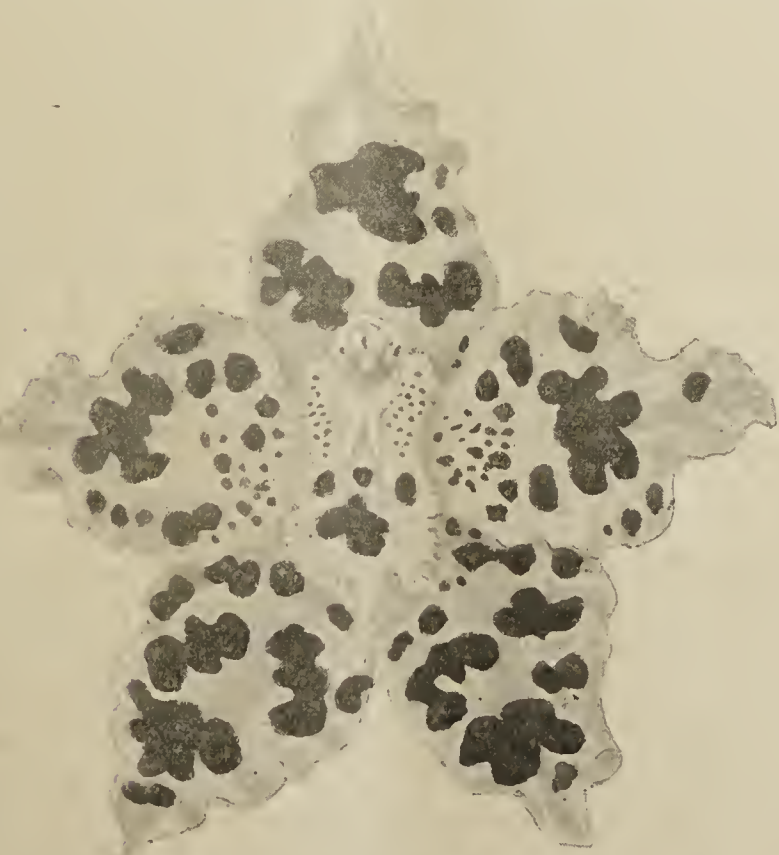
Every bit of decayed root must be cut clean away without damaging the healthy portions, and the plants must be dry when placed in the baskets. After firmly placing the moss it should be neatly clipped off in the shape of a cone, the plant just resting upon the top of this. The house should be kept rather closer after the plants have been repotted, and a little more shading than usual is an advantage. Water very carefully at first until new roots are forming, and avoid wetting the foliage overhead, this being distasteful to *Phalænopsis*.—H. R. R.

The Business End of Horticulture.*

The following lecture deals with the present aspects of trade horticulture in the United States of America, but coming from Mr. O'Mara, it could not fail to be of interest to trade horticulturists in Europe almost as much as in America. For that reason we publish it in an abridged form:—

Let us consider where the business end—or, rather, ends—of horticulture are to be located. First in importance is the seedsman. Even here there is to be found differences; all do not travel on the same road. There is the box trade, for instance, a separate and distinct branch. Long before a town can support a seed store the box makes its appearance. The druggist, the general storekeeper, the jeweller, the grocer, almost any shop-keeper, will be the distributing agent for the seeds. The growth of this branch of the trade is something marvellous. In one generation we have seen one firm expand from a little shop, which barely paid the living expenses of the founders, into a great institution which ranks high among the finest commercial houses in the country. So systematised is this particular branch that the seed box follows close upon the heels of the settler into the most remote quarters. Not many years ago I was in a thirty-day-old town, seventy miles from the nearest railroad station, yet the seed box was there before me. Another branch of the trade was represented among the first settlers there, viz., the seed grower. So we see that two branches of horticulture are found in the forefront of the developing line.

The seed grower is a horticulturist who does not figure very prominently in horticultural essays, and yet he is an important factor. Many people believe that the large seed houses have one big farm where they grow all their seeds. That would be imprac-



Odontoglossum Adrianæ var. Mrs. R. Benson.

* An address by PATRICK O'MARA, of New York, before the Massachusetts Horticultural Society, Boston, January 25th, 1902.

ticable, for the reason that different seeds can be better grown in different localities. California will produce better seeds of many kinds than any other part of the country. Portions of Nebraska produce the best seeds of Vine crops to be found in the country. Long Island seems to be the ideal place for Cabbage seed production. Portions of Connecticut are unrivalled for the quality of Onion seed produced. Northern New York and Maine are unexcelled for Potatoes. The great north-west has exceptional possibilities as a seed producing country. Europe still supplies its quota of seeds and bulbs; but with the vast extent of territory over which floats the American flag, with the wide range of temperature, the rich soil, and the energy and intelligence of the men engaged in horticulture, there is every reason to believe that in the near future we will not only produce all we need ourselves, but will be able to control the markets of the world in seed production.

The Seed Grower.

The seed grower for the most part is a contractor who takes the stock supplied by the seedsman and delivers the entire product. His work is supervised by the seedsman, who inspects the growing crop and carefully 'rogues,' that is, destroys any plants which are not up to type, which, in other words, show a reversion to an inferior type. It often happens that an improvement will be apparent in individual plants, and these are carefully marked, the seed product kept separate and sown the following season. This is the source of many of the improved varieties. It is obvious that the greater the amount of care bestowed on inspection, the greater the intelligence brought to bear upon it, the better in proportion must be the result. It is upon this care and intelligence that reputation is based; hence the difference in stocks sold. The seed grower is often a hybridiser, and to the patient work of these men we owe many of the improved varieties now in existence.

The greatest vehicle, unquestionably, for developing horticulture is the catalogue of the seedsman, the nurseryman, and the florist. The first is beyond doubt the most important in its effects, and might be called the centre from which the business ends radiate: the millions of catalogues distributed annually are an inspiration to the recipients and to the hundreds of thousands who are influenced by seeing their neighbours engaged in horticultural work. Great is the responsibility of the catalogue firms, and great is the labour involved. It is undeniably the most trying of all the business ends of horticulture. The men engaged in it must be ever on the watch for new and improved varieties; they must lead, and not follow, popular opinion; but yet they must be cautious not to get too far in advance. They must be ready to explain why crops fail; they must be able to advise remedies; they must be entomologists, pathologists, be up in soil chemistry; and, when the great extent of the country is considered, it is readily understood that the task is not an easy one.

The Catalogue Compiler.

They must be ready to tell when and what to plant or sow in farm or garden from Puget Sound to Florida Keys, from Aroostook to San Diego. They must be able to tell the dear old lady what is the matter with her sick Pelargonium or her debilitated Begonia. To be successful, the catalogue man must be not only resourceful in business methods, enterprising in developing and introducing varieties of merit, but he must be optimistic, he must be able to communicate his optimism to his customers, he must be liberal in his dealings, be ever patient, be a natural diplomat, and, above all things, be scrupulously careful to send out only the best obtainable. What is said of the seedsman is also applicable in a great measure to the nurseryman. The details of his business are hardly as numerous, however, consequently not as trying. His business is in a larger degree localised, which tends to simplify it. With San José Scale, Peach "Yellows," and other troubles incidental to his stock and the legislative effort to control them, he is not without troubles of his own. The nurseryman, too, must be up in the "ologies," even more so, perhaps, than the seedsman. He must be a fair lawyer as well, and be an expert in transportation matters. The lithographer and the tree agent are powerful agents to the nurseryman. The latter, armed with his book of plates, wends his way over the face of the land, in many cases reviled and thrust out, treated little better than the hobo. His book is snatched at, and while it may be a trifle highly coloured, and the size of the pictured flowers and fruits may be a little exaggerated, yet a long experience has shown that such are the best fitted to tempt the wavering into purchasing something which will really be a benefit to them. It is a case where the end justifies the means, if there ever was one. Many a garden would be given over to weeds which now supports a few fruit trees and small fruits; many a porch and dooryard would be as bare of living ornament as the proverbial "Job's turkey" was of flesh and feather, were it not for the tree agent and his book. That business end of horticulture is not "one grand sweet song" for the men engaged in it; the emoluments arising from it will not make them plutocrats. Be patient with them, then, if not for themselves, at least for the good they accomplish.

The Wholesale Men.

The grower for the catalogue firms is another of the business ends of horticulture; that is, the man who grows plants in quantity on contract, or who grows them on speculation to sell in large quantities. His field embraces greenhouse plants, fruit plants; hardy outdoor plants, shrubs, roots, and bulbs. It is a safe business on the whole, but is not capable of great development, like the catalogue trade. It is generally followed and taken up by men who have some land, but little working capital, and the profits are as a rule very meagre. Because of the limited capital with which it can be entered, provided the land is already secured, a great many of the smaller nurserymen, florists, and even farmers, have entered it of late years, and it may be safely said to be a well-ploughed field at the present time. Because of the fact that these men are not in touch with the retail market they grow many things for which there is not ready sale. Failing to obtain buyers for these at remunerative prices, they are frequently taken up at a sacrifice and pushed by catalogue men, to the detriment of better things. I think it may be accepted as an axiom that the successful catalogue business man must be a bona-fide producer, either under his own direct control or by the contract system. This applies to plants more than seeds or bulbs, which can be treated as merchandise. The expense of catalogues, advertising, packing, and growing hardly admits of developing a large business by buying plants and selling again; besides, there is always the trade grower who has a surplus of something inferior to offer at a tempting price, and it is well to beware of the "great pennyworth."

The Cut Flower Grower.

The business end of horticulture represented by the cut flower grower is perhaps the simplest, in a business sense, of any. In that the skill of the grower is the paramount issue. His product is sold for what it is worth on sight. Although the market takes exasperating tumbles, he has little, if anything, to do with it. He is saved the nerve wear incident to bargaining, planning, how to get rid of his product, how to get his money after he has sold, and the many and vexatious problems incident to barter and sale. I speak of the grower who supplies the large cities and consigns to a commission house. Of course he is constantly consigning the commission man to a place warmer than his hottest greenhouse, but that is his privilege, and the commission man gets accustomed to it, so no one is much hurt. The market is cut out for him. The Rose grower has the great trilogy of Beauty, Bride, and Bridesmaid. The Carnation grower has a little more vexed problem as to the varieties he will grow, but it is plain sailing for the Violet grower. There is always something new coming up in Roses, too, to vex the grower. If the man who gets hold of the new one first has a reputation and can succeed in growing it well, it is an easy matter for him to get a market for the plants and so turn an honest penny. But business instinct counts just as heavily in growing cut flowers as in the other business ends of horticulture. It was business instinct which years ago influenced one of our leading growers of Roses to discard every flower which did not come up to his standard. That policy made his reputation, and was the foundation of his success. It worked both ways; it concentrated his efforts on producing something up to that standard and maintaining it, while it made his reputation. It did more; it elevated the standard and really made two classes of growers in all lines of cut flower growing, the one which aims at "fancy" flowers and which embraces all the high-class establishments, the other which does the best he can and takes things as they come. I've been among growers of Violets and have seen flowers discarded for slight imperfections of colour which the unobservant eye would scarcely detect. I have seen Roses discarded which a few years ago would be sent to the market for what they would bring. A walk through the wholesale districts in any of the large cities will reveal to the observer stocks of Roses, Carnations, Violets, and so forth, which seem to be different varieties although the same, the difference being in the growing mainly, but also in the care with which the cutting, keeping, and packing are done.

It is one of the most pleasant branches of horticulture, and one of the most remunerative for the capital invested. It has developed fastest of all during recent years, and although the constant cry goes up that it does not pay, it continues to develop. The demand for flowers is constantly growing, and the laws of demand and supply are inexorable.

The Shop-keeper.

The business end of horticulture represented by the shop-keeper in the large cities is a branch by itself. Its connection with the producing branches is a very slender one, and seems to be growing more attenuated. Why this should be does not appear on the surface to most of us. The fact remains, however, that as a class they hold aloof from the trade organisations, when it would seem that their interests would be conserved by affiliating with them. The combination of all branches of trade horticulturists in one organisation should inure to the benefit of all. The smaller cities are generally represented in the shop-

keeping by the man who is himself a grower and whose wife or daughters "tend store" and make up floral designs. The great shopkeepers in the large cities are "artists" and indulge in fads. They, in some cases, drop their first names, like the ladies' tailors and milliners. But the development of that branch has been wonderful. Glass delivery waggons, with gold-mounted harness and something suspiciously like a crest embossed thereon, have become the sign manual of the successful floral artist in the large cities. The addition of "ribbons and laces to set off the faces" of pretty flowers seems a natural accompaniment to the style of business; but it seems inconsistent with the prevailing "natural" style of flower arrangement. It is positively painful to see flowering plants swathed in ribbons and paper or tied up with bow knots like a poodle dog, and it is to be hoped the "artists" will abandon it, or their patrons get tired of it very soon.

In horticulture as in everything else, the men who originate either methods or varieties are the men who shape the business ends and all. The men who hybridise, the men who investigate, the men who do the thinking, are the men who supply the motive power for the whole. The originators of the new varieties of fruits, flowers, and vegetables have not only conferred a benefit on the people at large, but have made it possible for the grower to continue in a profitable business. The man who first propagated Roses in summer and began a special business of mailing them showed the way to dozens of successful imitators. The man who developed the idea of the shallow bench and annual planting of Roses for cut flowers was in his way a Columbus. The man who first used large glass and light frames in greenhouses made it possible to produce the quality of flowers in evidence to-day. The man who built big greenhouses to grow Lettuce, Tomatoes, Cucumbers, and so forth, made a great forward stride. The man who started the first horticultural journal made an important innovation. The business ends of horticulture are many and various, and I trust enough has been said about them in this paper to show to those who may not have considered the matters covered, that they are interesting and important, at least to those engaged in them.

Ether in Forcing Plants.

That ether may in time become a factor of importance to market and private gardeners is very possible. In "Le Jardin," M. Albert Maumene summarises the results of experiments under the above heading at the experiment station at Dresden as follows:—"In the early forcing of shrubs no one can neglect the advantages resulting from the use of ether. The commercial man must take into account that certain species can not only be brought into flower earlier, and thus bring an advanced price, but that they occupy the houses a much shorter time, and thus the expense of growing is greatly reduced. It is stated by the author, as a proved fact, that the saving in time required in the house will more than cover the additional expense of the process, having the advanced price obtained by being first in the market as a net profit.

"Experiments with the Lilac, the varieties used being Marie Legraye, Charles X, and Leon Simon, showed the flowers fully expanded in eighteen days after being brought into the houses, Marie Legraye being even earlier than this. In the forcing of shrubs for a very early date, while those not treated have flowered only poorly, the treated plants have produced much better flowers eight to ten days earlier. Etherised plants are even found to force at a much lower temperature than those not so treated. In addition to the Lilacs, Azalea mollis and the Viburnums responded readily to the treatment: Prunus triloba was more rebellious, while the flowers of Deutzia gracilis were spoiled. Lily of the Valley, etherised and placed in heat (about 75deg) on November 21, flowered 40 per cent., while those not etherised flowered only 2 per cent. For much later forcing the ethering process does not seem advisable. In treating Roses so marked a success has not been shown, although the flowers were earlier. Cut branches of Azalea mollis flowered in twenty-three days, while branches not so treated were twelve days late. Viburnum plicatum, etherised and placed in heat December 2 was in full flower on the 14th, while the plants not etherised flowered very poorly a long time later. Azalea mollis, treated November 26 and brought into the house November 28, was covered with flowers on December 20, although the untreated plants were only poorly flowered in early January. As the normal flowering season approaches, the action of ether becomes less and less marked, so that its use is especially indicated for the months of November and December.

"The application of this process requires, of course, considerable care. The vapour of ether is very inflammable, and the work must be done in the absence of fire and artificial light. The box or apartment in which the plants are treated must be

absolutely tight, as the vapour will otherwise escape, for they must be in an evenly etherised atmosphere about forty-eight hours. Arrangements must also be made for rapid and complete ventilation when the exposure has been sufficiently long."

Some Chat about the Fritillarias.

I feel I must send you a few notes of welcome about the Fritillarias, which have too few friends among the fraternity of gardeners. They are just what Mr. Arthur Benson calls them in one of his poems, "Snakeheads"—"rare, outlandish things for such as love them," and some at least want one to know them before one can appreciate their beauties; for such they have if we uplift their blooms, and examine the interior of even those which look the least attractive outside. Some which are dull and unattractive on the exterior are prettily chequered or marked with wonderfully pretty tints inside, while many are as if varnished or lacquered.

I have known these flowers almost all my life, and I can yet recollect the pleasure with which in my boyish days I used to turn up the pendant bells of Fritillaria Meleagris in a garden I used to be often in when I was a boy. They may be

Faint-tinted, spotted like an ocelot's skin,
Streaked like the banded viper, with their lean
Sleek stalks; uncanny, indeterminate.

but they have a singular fascination for those who know them best. One would plead for our native F. Meleagris, of which Matthew Arnold said:—

I know what white, what purple Fritillaries
The grassy harvest of the river fields
Above by Eusham, down by Sandford, yields.

It was more cherished in the olden days than now, when we have Snakeshead Lilies of more showy colours, though there is none prettier than the white F. Meleagris alba, often called *præcox*. This same F. Meleagris is Gerard's "Ginnie-hen flower," because of its chequering, and Parkinson speaks of its chess-board markings, and of its being called "in errore" the "checkered Daffodil." It seems curious that its existence as a native plant was unknown to Gerard, for he tells that "the curious and painful herbarist of Paris, John Robin, sent me many plants for my garden, where they prospered as in their own native country, and were greatly esteemed for the beautifying of our gardens and the bosoms of the beautiful." Who ever sees a Fritillaria "beautifying the bosoms of the beautiful" nowadays? And who would call such a good friend as, say, Mr. Edward Whittall a "painful herbarist"?

As by means of books we can surround ourselves with friends of kindred tastes, even if they have long left for the Elysian fields, so among one's garden friends are many men of the olden days who cared for the Fritillaria. Among these was Justice, who tells us in his "Gardiner's Director" of his collection of these flowers, and of how he raised them from seeds; and also thoughtfully gives us a list of those offered in the catalogue of "my good Friends the Voorhelms at Harlem," with whom he seems to have had much communication, doubtless to the mutual advantage of Scot and Hollanders. This list of 1754 is very interesting to a Snakeshead lover, and comprises some three dozen varieties, among which is one named "La Belle d'Ecosse," and what must be the curious double form of the Fritillaria, catalogued as "Dubbelde." And now, when both Justice and the Voorhelms are long passed over to the majority, their names are dear to some of us, and we look upon them as familiar friends.

But the admirer of the Fritillaria need not confine himself to F. Meleagris, and may find among the many Snakesheads from other lands some which will please our natural liking for bright things, as well as for the curious and fantastic in colouring. There is the charming, yet difficult to establish, F. recurva, of which a new form called major, said to be easier to grow, has just been brought before us. There is the curious little F. armena, which I hope the Editor will favour us with a cut of some day, and which can be had in red, yellow, and green, but which the slugs have an unhappy fondness for cropping. Citrina is a pretty thing in its way, and liked by the ladies, though one of my friends thinks that is sufficient to prove that this is a confirmation of the truth of his opinion that it is not worth growing. I hope I am not so ungallant as all that, and am content to abide by what I have said about this far from showy plant. More attractive is the pretty yellow F. aurea, while we have a host of others of which I may tell more at flowering time. Meanwhile, the Editor will think he did wrong in opening the floodgates of the zeal of a lover of the Snakesheads. —S. ARNOTT.

Gadding and Gathering.

"HERE AWA', THERE AWA'."

Kennington Park.

Situated amid all the bustle, grime, and dust of one of the metropolis's busiest and most densely populated districts, Kennington Park is yet bright and bonnie. The very heat and glitter from the innumerable buildings, roadways, and paved paths that meet the eye on every side, seem the more to enhance the deep red glow of the crimson-leaved Castor-oil plants, and seem also to have fostered the enormous and handsome leaves of the Tree of Heaven to an unparalleled size at Kennington. When one has articulated the word Kennington there unwittingly succeeds another and shorter word, namely, "Oval"; thus, Kennington Oval, one of the best known cricket centres, either in or out of this capital of capitals. Yes, the crack of the ball upon the bat, and the applause of the Oval frequenters, could

scarlet bedding Pelargoniums (Geraniums); Abutilon Thompsoni, Centaurea candidissima, Alternantheras, Lantanas, and other well-known favourites are employed. The green lawns surrounding the geometrical beds afford a pleasant and gratifying contrast. Neighbouring the busy street is a walk and an herbaceous plant border, both of which run parallel with one side of the flower garden, and, of course, with the street outside the railing. Kennington Park is not more than a few minutes' walk from Westminster and the Houses of Parliament. It has a number of shady walks, too small, perhaps, to be honoured with the euphonious name "boulevarde," but boulevarde in verity all the same. "On the benches in the park" may at all times be seen men, women, and children of all classes—"all sorts and conditions of men," to quote the title of one of the late Sir Walter Besant's entertaining works.

Alexandra Palace, London.

It is scarcely two years yet since the Alexandra Palace and the grounds surrounding it were purchased and given over to the



Flower Garden, Kennington Park.

be heard nicely by the attentive person sitting in Kennington Park, only that the roar of street trams, 'buses, and general traffic drowns the weaker sounds.

On pages 316 and 317 appear two views taken in the Park under notice. One shows the planters busy at the intricate task of furnishing one of those exquisitely neat and cleverly designed carpet beds that are still found in the principal London parks. The view without the workmen shows the flower garden from another point of view. The dwarf Yuccas between the beds stand out prominently. The whole of the flower garden is railed in, and is surrounded by a walk. The flower garden (for this title is deserved and justifiable here) at Kennington Park is laid out on a long, rectangular area, dipping a foot and a half at the sides all around, in the fashion of a bowling green, and upon this surface the beds lie. Relief is afforded by numerous specimen single stemmed plants, such as Ailanthus glandulosa (Tree of Heaven), Rhus typhina in groups, also Acacias, Birches, Yuccas, Eucalyptus, Negundo acerifolia variegata (also termed Acer Negundo variegata), Prunus Pissardi, golden leaved Elms, Privets, Planes, and other subjects remarkable for the beauty of the form or colour of their foliage. The beds are filled with the express purpose of creating "a blaze," and thus Begonias,

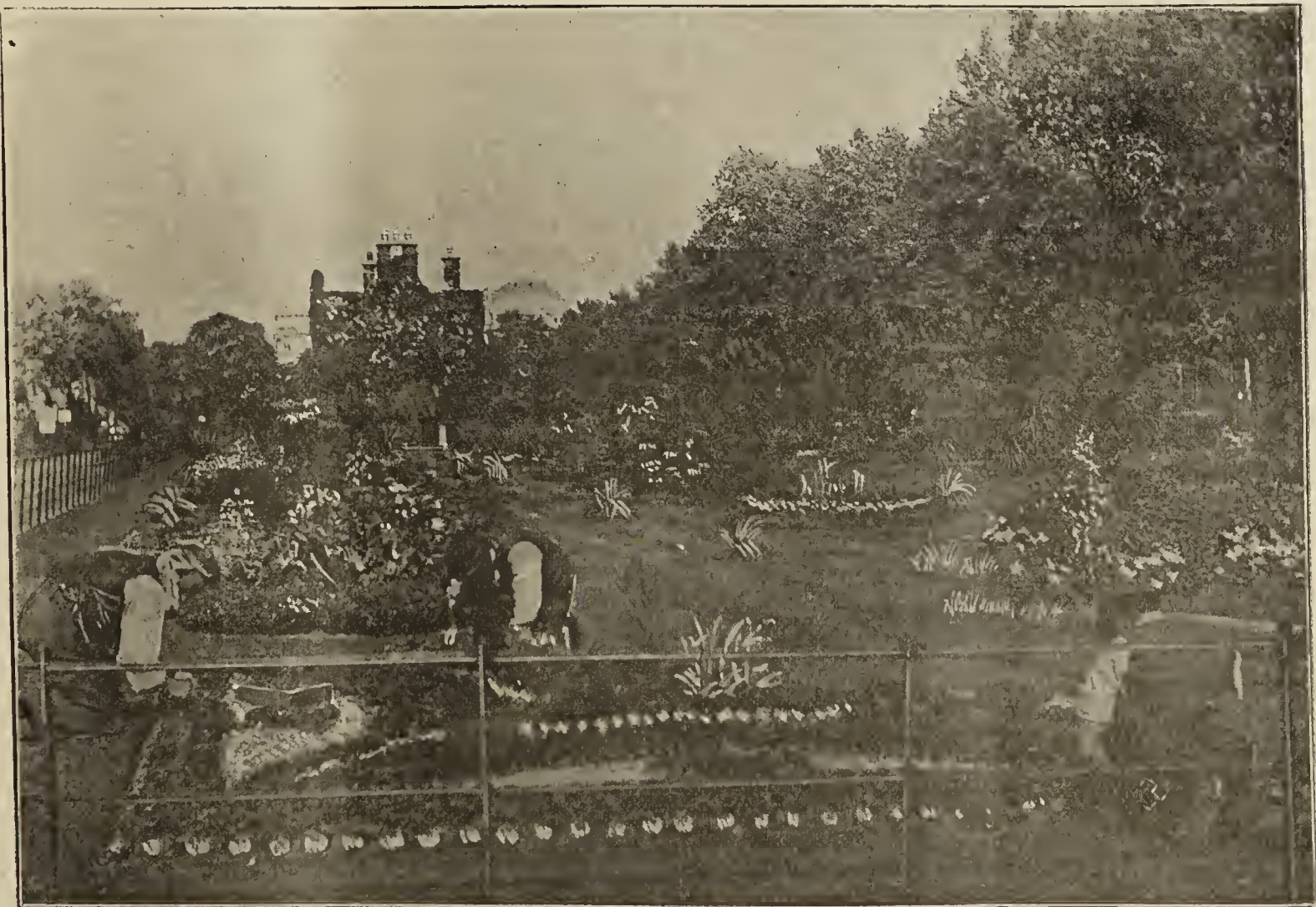
North Londoners as a great public recreation place and centre for sports and entertainments. Being in the neighbourhood a week or two ago, the opportunity was utilised, and a visit recorded. I found the main features of the grounds and the position of the huge and handsomely substantial "Palace" almost exactly duplicating those of the Crystal Palace at Sydenham, many miles away on the south side of the metropolis. Standing on an elevation, the views from the Alexandra Palace reach far out north, east, south, and west, displaying a fearful composition of tall factory chimneys, reservoirs, streets, open spaces, groups of trees, and endless mixture. The northward environs are as yet only sparsely built upon, but great London and its life teemingly throbs through every artery in the broad expanse in the opposite direction. The roads leading up to the Palace have been renovated and seemingly improved. There is no pretence at gardening, either within or without the building, as there is at the Crystal Palace, and at present the general aspect is rather bleak and uncomfortable. By the judicious planting of trees and shrubs and clumps, belts and borders, a very great deal could be done to improve the outward appearance of the many acres. The interior of the Palace is very spacious, perhaps larger than the "Lady of Sydenham Hill," as

the Crystal Palace has been termed, and contains art collections, some wild animals, mostly monkeys and birds, and other things of interest.

Wood & Son, Wood Green.

In recent notes, I referred to Messrs. Wood and Sons' new patents, and I would here briefly comment on their general sundries. The offices, warehouses, and yards belonging to the firm are within a few minutes' walk from the Alexandra Palace, and adjoin the New River Wharf; they are also conveniently situated to the railway, and part of the Wood Green Station siding runs into Messrs. Wood's area. Huge quantities of peat in turves are stacked in sheds. Of peat they have seven qualities. Each "quality" of peat is used, or recommended at least, for special purposes. The hard peat containing much of both matter and fibre is best adapted for Orchids; soft peat, on the other hand, is mostly used for stove plants. A heavier, black peat is largely sold for Rhododendrons, as is also the loose peat, the "shakings" from the turves. Cocoa-nut fibre, I was informed, is

weighing about 40lb per 100. The black and mottled bamboos are useful for ornamental staking, or for erecting a tasteful, impromptu fence, by being inserted cross-fashion to form a lattice. The tapers—that is, light canes that taper to a very fine point—were plentiful. These points can be taken off if desired, to form smaller stakes for light and delicate uses, as staking Carnations or Schizanthus. Up in a loft to one of the houses were numbers of stoutly made wooden baskets (or trugs, as they are also named) of all sizes, and suitable for either heavy or light use. These wooden baskets are remarkably enduring, and serve a great variety of purposes in gardens. In a laboratory suitable for the preparation of the now well-known "Veltha" emulsion I was privileged to see the operators employed. To tell trade secrets is none of my business, however, but Veltha speaks for itself. Many find it a valuable antidote to fungoid diseases. From three or four original testimonials placed before me I find one man (John Aston, Hyde, Cheshire) saying, in regard to mildew on Roses, that, after having tried many fungicides and failed always, he had given Veltha and Veltha emulsion a



Carpet-bedding in Kennington Park.

quite at a premium at the present time, and fetches 3s. a sack readily. A considerable amount of Northampton loam is disposed of; perhaps quite as much as the famed Surrey loam. Both are ideal soils for the potting bench, and a mixture of the two is frequently made. Of course, it is not necessary to bring any large quantities of these bulkier commodities to Wood Green. The Messrs. Wood, being agents, can convey their orders to the Northampton or Surrey estates, as the case may be, and from there the consignments would be sent to any address. Sample heaps of shingle, crushed spar, sea-sand in various degrees of coarseness or fineness, were noticeable in the yards. Large quantities of fine wool shavings are packed in bales just as they have been received from North Sweden. For fruit packing these wool shavings (extremely fine wood shavings) are much employed. Raffia all the way from Madagascar likewise entices notice.

Archangel mats for the pits and frames were not wanting, and all manner of stakes were to be seen. The trade in these must be very considerable, judging from the huge bundles of them stowed on end in spacious warehouses. Here were the Chinese Tonquin canes in varying sizes, from the small ones averaging 6lb to 8lb per 100, on to 5ft canes (the size most in demand), which equal 24lb to 26lb per 100; 6ft canes, averaging 26lb to 30lb; 7ft equal 30lb to 32lb, and so on, the 12ft canes

trial, with such success that he would not now like to be without them. One writer, from Watford, had been equally successful in its use on Chrysanthemums; while for Carnations, Mr. Charles Milne, of Graystoke Castle, Penrith, had found the Veltha a complete curer of the disease. But if testimonials are wanted Messrs. Wood can furnish scores. They have basketfuls, and almost daily receive fresh proof of the efficacy of the preparation.

To attempt an enumeration of one-half of the "sundries" stocked at Wood Green would necessitate a double column of the Journal. Almost everything can be got, from gardeners' aprons to Acme labels, from scythe stones to sparrow traps and sprayers, from hoes, hurdles, and hygrometers to all that is necessary in hot-water engineering—everything, indeed of an essential nature for gardens other than plants and seeds. On application a priced index of the specialities in Messrs. Wood's "Garden Manual" will be sent to any person who is interested. It was pleasing to hear from Mr. James Wood that, notwithstanding the repeated rumours of trade depression in many other businesses, his own firm required more energy each day to cope with orders, and on the day of my visit a record number of orders had been received. Quite a throng of young and middle-aged men were busily engaged in packing, and this fact is the best testimony to his labours that a tradesman can desire.—W. W.

NOTES & NOTICES

Edinburgh Agricultural College.

The Edinburgh Agricultural College is about fully organised at last, and the East of Scotland counties are enjoying all the advantages to be derived from the operations of this institution.

Nursery and Seed Trade Association.

The twenty-fifth annual report of the committee of management was presented to the members at the general meeting at the offices of the Association, 30, Wood Street, Cheapside, London, E.C., on March 11, 1902. The Association now consists of 157 members, 120 of whom are in the United Kingdom; the remaining 37 are foreign members. A balance of £8 6s. 2d. remains on hand. The secretary to the Association is Mr. J. P. Worrell.

The Kyrle Society.

Lord Monkswell writes on behalf of the society to ask the assistance of those who own gardens to spare cut flowers or plants, bulbs, or seeds "to help to cheer the poor, tired workers in our great City who have to live all the year round in the hot, dusty streets and crowded tenements of London." As a pot of growing flowers and the rearing of seeds and bulbs give great pleasure, the society has now a branch for window gardening as well as for cut flowers. A post-card to the hon. secretaries of "Flower Distribution" or "Window Gardening," Kyrle Society, 2, Manchester Street, London, W., will receive a prompt reply, giving addresses to which flowers or plants can be sent.

The Worshipful Company of Fruiterers.

An essay on gathering, preparing, packing, and profitably disposing of home-grown fruit and vegetables by cottagers and others with small holdings is asked for by the above company. A prize of twenty-five guineas, together with a gold medal, is offered by the Worshipful Company of Fruiterers for the best essay written on the above subject. The essay is not to exceed 25,000 words, to be plainly written on foolscap or sermon paper on one side only. The object is to assist and encourage small growers. The copyright in the successful essay (if any) is to become the property of the Company. If in the opinion of the judges none of the essays be of sufficient merit they may refrain from awarding the prize. The essays are to be addressed to the Clerk of the Worshipful Company of Fruiterers (John Eagleton, Esq.), 40, Chancery Lane, W.C., not later than 1st October, 1902. Copies of the suggestions for this essay may be obtained from Mr. Eagleton.

Oxford County Council.

Under this Council the Reading College last year made trials at Clifton Hampden on the manuring of Potato crops, Mr. S. Heaton, the horticultural instructor, directing the work. Two varieties only were grown, namely, Reliance and Abundance, in separate sections of the ground, each section being sub-divided into five lots and manured differently. Thus, No. 1 received no manure; No. 2 had 1cwt of nitrate of soda, 2cwt superphosphate, 1cwt of muriate of potash; No. 5 plot had 2cwt of superphosphate and 1cwt of muriate of potash. Which came out best? The latter did. Both varieties responded unmistakeably, and gave higher crops than did those plots otherwise manured. Thus, with no manure, 1 acre yielded 4 tons 1cwt 8lb of saleable Potatoes; No. 2 plot (with the three manures, costing £1 4s. 1½d. per acre) yielded 5 tons 18cwt 104lb of saleable tubers; but the best example, as we have stated, was No. 5 plot, with the superphosphate and muriate, costing 15s. 1½d. per acre, and returning 6 tons 7cwt 96lb of Reliance Potatoes. The same two fertilisers applied to Abundance gave 7 tons 12cwt 56lb of saleable Potatoes, though the total yield per acre of tubers of this variety was 11 tons 7cwt 16lb. A large number of other reports on the work conducted by the County Council's representatives on the Allotment holdings accompany the report of the Potato manuring trials. Application for these can be made to the Reading College authorities.

Jamaica and Tasmania.

Jamaica hopes to export over 12,000,000 bunches of Bananas this year. * * The first consignment of Tasmanian Apples—and beautifully graded fruits they are—have been shown in Covent Garden during the week.

Farmers Emigrating.

The agricultural outlook in South Notts is exceedingly gloomy. About fifty farms are unoccupied, and one extensive landowner has twenty farms untenanted. Forty farmers are booking their passages to Canada.

Weather in the North.

While in whole or part many of the days of the past week have been bright, the prevalence of intensely cold winds has made the weather less pleasant. Sleety showers, too, have frequently fallen. On five successive mornings, beginning with the 4th inst, frost, ranging from 3deg to 8deg on Tuesday morning, has been registered, dense rime accompanying in each case.—B. D., S. Perthshire.

Sussex Weather.

The total rainfall for the past month at Abbots Leigh, Haywards Heath, was 1.83in, being 0.14in below the average; the heaviest fall was 0.77in on the 14th; rain fell on ten days. Total for the three months 4.34in, which 2.32in below the average. The maximum temperature was 60deg on the 31st, the minimum 27deg on the 5th; mean maximum 52.25deg, mean minimum 36.23deg, mean temperature 44.24deg, which is 3.35deg above the average. A mild, favourable month. Frost occurred on seven nights. The latter half of the month was showery, and but little bright sun. Vegetation is well on the move, and fruit trees look promising.—R. I.

March Weather at Belvoir Castle.

The prevailing direction of the wind was S.W., total 14 days. The total rainfall was 1.26in; this fell on 13 days, and is 0.30in below the average for the month; the greatest daily fall was 0.53in, on the 14th. Barometers (corrected and reduced): Highest reading, 30.218in, on the 16th at 9 p.m.; lowest, 28.996in, on the 24th at 9 p.m. Thermometers: Highest in the shade, 59deg, on the 31st; lowest, 24deg, on the 6th; mean of daily maxima, 50.87deg; mean of daily minima, 36.06deg; mean temperature of the month, 43.46deg; lowest on the grass, 23deg, on the 6th; highest in the sun, 106deg, on the 19th and 23rd; mean temperature of the earth at 3ft, 41.41deg. Total sunshine, 130h 20m, which is 28h 12m above the average for the month. There were two sunless days.—W. H. DIVERS.

Temple House Gardens, Bucks

Herewith are the returns giving maximum and minimum temperatures, also rainfalls, for March. There were eight frosts during the month and eight foggy days. On the 10th we had a very dense fog from 12.50 until 2 p.m. and a slight fog rest of day; a very rough, wet night on the 14th, hail and thunder on the 21st, and a heavy hailstorm on the 24th, with gale during the night. In March, 1901, the highest maximum temperatures were 56deg on the 5th and 12th, and the lowest minimum temperature was 18deg on the 28th. The rainfall for March, 1901, was 1.47in. We are situated close to the banks of the River Thames, and 105m 9s above sea level.—G. G.

A Pernicious Seed-selling Scheme.

From "Truth" of April 3 we quote the following paragraph:—"The send-no-money business is no longer confined to the vendors of cheap metal ornaments. A seedsman at Kilcreggan, Dumbartonshire, Foyer by name, sends out his catalogue accompanied by an illustrated list of Foyer's premium watches, with the following notification: 'Any of the above collections of seeds will be sent post free to any boy or girl who will undertake to sell them and to remit the price, 15s., when sold. For so doing he or she will be presented with a first-class watch, and may make choice of any of the five shown on illustrated sheet enclosed.' The collections referred to are in penny packets. Fancy entrusting any child who will send an order on a post-card with 180 pennyworths of seed to sell on commission! A more pernicious method of pushing business can hardly be conceived, and I should hope that every grown person who sees the catalogue containing this offer will leave Mr. Foyer to do what business he can through his boy and girl agents."

The Horticultural Club.

On Tuesday evening last the Horticultural Club met to the number of about fifty at their rooms, in the Hotel Windsor, to do honour to Dr. Augustus Henry, who is about to return to his professional practice in China. The president of the Royal Horticultural Society occupied the chair.

Sweden and its Trees.

Orsa, in Sweden, has during the course of a generation sold £1,150,000 worth of trees, and by means of judicious replanting has provided for a similar income every thirty or forty years. In consequence of this commercial wealth there are no taxes. Railways, telephones, &c., are free, and so are schoolhouses, teaching, and many other things.

Motor Car for Farmers.

Speaking before the Yorkshire Agricultural Union a short time ago, the President of the Board of Agriculture said he hoped to see motor cars competing with the railways for the conveyance of goods to and from the country villages. For this the size of motors would require to be enlarged, they would require to travel at a reasonable speed, and the roads everywhere would need to be kept in thorough good order. There was a talk some time ago about market gardeners adopting motor cars; but we have seen none yet, though many of the London manufacturing companies are adopting motor power.

Ipswich Mutual Improvement Society.

The usual fortnightly meeting of this society was held on April 3, Mr. R. C. Noteutt occupying the chair. A paper on "Stove and Greenhouse Climbing Plants" was read by Mr. E. Creek, Westerfield House Gardens, who first briefly described the conditions necessary for the successful cultivation of climbing plants, giving details with regard to soil and position, pruning, training, and eradication of insect pests, afterwards mentioning a few of the more important genera, such as *Stephanotis*, *Clerodendron*, *Ipomæa*, *Dipladenia*, *Bougainvillea*, *Passiflora*, &c. In the discussion which followed, Messrs. Southgate, Whittel, A. Creek, Chandler, Morgan, Close, and the chairman took part.

Liverpool Amateur Gardeners.

There was a very fair attendance of members at the usual monthly meeting, held in the Common Hall, Hackins Hey, on Thursday last. Hyacinths, Azaleas, and several good Orchids were exhibited, Messrs. Dodd and Ellison winning with the latter, the former gentleman's plant of *Cattleya Schröderæ* being noticeable. Mrs. McGregor and Mr. Ellison showed in good form, the class for cut flowers being taken with a handsome selection staged by Mr. Robins. A lecture on "Table Decoration," by Mr. J. Stoney (gardener to H. B. Gilmour, Esq., Underlea, Aigburth), was much appreciated, the leading features being given in my notes of the same subject read at a meeting of the Woolton Gardeners' Mutual Improvement Society.—R. P. R.

Croydon Horticultural Mutual Improvement Society.

A crowded meeting was held in the society's room, at the Temperance Hotel, Croydon, on Tuesday evening, April 1. Mr. W. J. Simpson presided. Several new members were elected. Mr. George Gordon, V.M.H., Editor of the "Gardeners' Magazine," gave a most admirable and interesting paper upon "Hardy Flowering Trees and Shrubs." The paper was appropriate at the present season. Mr. Gordon prefaced his discourse on the little use of flowering trees and shrubs made by the gardeners and planters of early times, and specially noted the great increase of species and varieties planted by gardeners, &c., during the past few years. Mr. Gordon dwelt upon the wealth of beautiful flowering subjects, noting their seasons of flowering—many bearing richly coloured fruit in the autumn—their adaptability for various purposes, and for the decoration of the garden and shrubberies. Mr. Gordon's knowledge of the subject in hand, aided by a series of about seventy lantern slides of trees and shrubs in flower and fruit, specially prepared for this lecture, enabled him to give much valuable information to his audience. The lecturer's remarks met with frequent applause, and at the close a hearty and enthusiastic vote of thanks was accorded Mr. Gordon on the proposition of the chairman, supported by Mr. Mills. In replying, Mr. Gordon proposed a vote of thanks to the lanternist. The next paper will be on April 15. Subject: "Flowering Plants of the Spring Garden."—J. G.

Midland Daffodil Society's Show.

This show will be held at Edgbaston on April 24 and 25.

Royal Meteorological Society.

At the ordinary meeting of the society, to be held, by kind permission of the council, at the Institution of Civil Engineers, Great George Street, Westminster, S.W., on Wednesday, the 16th inst., at 7.30 p.m., a lecture will be delivered on "Clouds," by Captain D. Wilson-Barker, F.R.S.E., F.R.G.S. The lecture will be illustrated by lantern slides. Fellows may introduce friends.—W. M.

Cornish Clemency.

Fruit trees in Cornwall are showing evidences of remarkable promise this season. Not only in the case of Apple trees, but with Pears, Plums, and other kinds of fruit, the trees are practically covered with blossoms. With anything like favourable weather, the indications point to a bumper crop.

Dundee Horticultural Society.

Upon April 3, Mr. William Christison, gardener, Braeknbrae, West Ferry, addressed the members of the Dundee Horticultural Society on the subject of "Passiflora," or what is more popularly known as Passion Flowers. In an interesting manner the lecturer explained some of the common varieties which are grown outside in specially sheltered positions, where, however, they are very liable to be destroyed by the rigours of the winter. Mr. Christison also explained some of Dr. Wilson's (St. Andrews) successful experiments in raising new hybrids.

The Preservation of Trees in Towns.

Mr. J. N. Hewitt, speaking recently at a public meeting at Liverpool, stated that a committee was appointed some months ago for the preservation of the trees of the district. Of course, he said, some of the trees must be sacrificed, but what is wanted is to preserve as many as possible, even though the main roads may have to be made wider in consequence. He suggested that when certain land is sold for building purposes there may be an undertaking that the "trees thereon shall not be wantonly destroyed," so that boulevards might be formed in the centre of the roadway, or a line of trees may be left on each side of the road so as to form an avenue. We would do well to follow the plan adopted in many Continental cities, so that, whilst we have lines of shops and houses, we may also have open spaces and green trees to beautify our neighbourhood.

The Will of the late Mr. Ed. Jno. Beale.

Mr. Edward John Beale, J.P., F.L.S., of Stoneydeep House, Teddington, and of the firm of James Carter and Co., of 97, High Holborn, seedsmen, who died on January 8, aged sixty-five, left estate valued at £30,671 gross, including personal estate of the net value of £20,921. The testator bequeathed his share and interest in the business of James Carter and Co. in trust for son Gilbert Ernest, subject to a covenant on his part to pay to the trustees of the testator's estate £30,000, in respect of his share and interest in the business, and £10,000 in respect of his share in the goodwill thereof, making together £40,000, but the trustees are not to enforce the covenant so long as a sum of £40 is paid each week in respect thereof. Subject thereto, the late Mr. Beale left his property in trust for his wife and children.

Death of Mr. John Downs.

Horticulturists around Birmingham and the Midlands will learn with deep regret of the somewhat sudden death, on March 29, of their much-respected friend Mr. John Downs, head gardener at Berkswell Hall, near Coventry. He was fifty-nine years of age, and commenced his gardening career forty or more years ago under his father, a very able gardener, who, with the owner, T. E. Walker, Esq., came to Berkswell Hall about that time. About twenty-five years ago, when his father retired and commenced farming, our friend then took up the position as head gardener, a position he held with credit to himself and the greatest satisfaction to Mr. Walker, who died about thirteen years ago, since when he has found a most kind and generous employer in J. H. Wheatley, Esq., the present resident and owner of the Berkswell estate. Mr. Downs was an excellent all-round gardener of a kind and sympathetic disposition, and his absence as a judge at exhibitions in the Midlands will be much felt, especially at the Birmingham Chrysanthemum Exhibition, where he had an unbroken record as a judge for upwards of twenty years, and where his judgment was never once disputed.—J. H.



Disseminating New Roses.

A discussion on the very important trade question of how best to disseminate and gain profit from a new Rose (or other plant) was entered upon before the Florists' Club of Philadelphia (U.S.A.), at its meeting on March 4. A considerable amount was read and spoken, but nothing definite seems to have been formulated. One member asks: "If a patent can be secured on a device, or upon some useful article, or medicine, why not on a charming new Rose, plant, or fruit?" Ah, why? Because a "device" is usually fixed in all characters, but with plants we are dealing with life itself. However, the system of securing a large number of orders at a high rate each, or of binding buyers not to sell under a certain figure till a date fixed on has been reached, are means now adopted by raisers to ensure a sufficient reward for their patience and risks.

Rose Cogitations.

No time should be lost in bringing the planting of all kinds of Roses to a close. I note many plants that are now laid by the heels are swelling their buds quite fast. Numerous new roots are being made which will receive a cheek when they are taken up to be planted. Of all things, perhaps, Roses make more roots during the winter than aught else in the shrub or tree line. This is perhaps owing to the fact that Roses are somewhat premature in pushing their buds for some time before they actually make new growth, the sap being active, and hence the roots are early on the move. Roses planted so late as this need not be mulched for a time, as is customary with autumn planting, which is then done to preserve the newly-planted roots from frost.

Where an early batch of Rose blooms are required, and the plants are growing in a sheltered position, secure from spring frost—for instance, where they are planted at the foot of a south wall, the first batch may be pruned without delay. In the case of Teas, cut hard back to within an eye or two of the base. In all cases where the plants were put out this autumn, the plants are all the better if pruned hard back at first.

In the case of climbing varieties, close pruning the first season gives much more vigorous shoots and finer flowers later on. Remove the mulching from newly pruned plants, letting in the sun's rays to the soil, warming it, and thus inducing an early growth. Roses rambling over pergolas will now require attention. Cut away all weakly growths, leaving more space for stronger shoots, and from which the finest blossoms are obtained; especially is this the case with cluster flowered sorts. With these it is not individual size of flower that is needed; it is strong sprays bearing a quantity that renders this type so pleasing a feature in the garden.

Cuttings inserted in the open ground in the autumn will now require attention, as the recent frost will have disturbed the cuttings at the base by the upheaval of the soil where due precaution was not taken to place a layer of coal ashes between the rows, which is the best preventive that I know of loosening the soil about the cuttings. Examine every cutting, pressing it down firmly at the base. Roots cannot form properly if the cutting does not rest firmly on the ground.

All Briers intended for budding should be planted without delay. For the tallest standard 4ft of stem is sufficient. When preparing these cut away as much of the thick root as possible, as this portion throws up so many suckers. Retain all fibrous roots, as seldom do we find too many of these in Brier Roses. Half-standard Roses make interesting subjects for a variety of sites. Many varieties are assisted by the growth of the common Brier.

Naming Roses is often a trouble, and not always satisfactory. When ordinary wood labels are used they rot, and the name too often quickly becomes obliterated. The Aeme Label, manufactured by Pinches, secured by a stout piece of galvanised wire thrust into the soil, is the best method I find, and they are not objectionable in appearance either.—E. MOLYNEUX.

Feathered Friends.

Not the least interesting instruction recently given by the London County Council is that providing a shelter for the feathered songsters which fly to Hampstead Heath. Near the little Red Bridge, says the "Sun," a small portion of the Heath is to be enclosed. Gorse, Sloe, and other plants will here be set, in addition to Flags and Rushes in the parts most suited for them. The spot chosen will make an ideal home for the birds, and there will be few who will regret the enclosure of a portion of the public land for this purpose.

The Clematis: Its Culture and Uses.

(Concluded from page 293.)

There is a lovely Clematis which has a section all to itself, and that is *C. montana*, a magnificent climber, and, by many, considered one of the most beautiful, with its abundance of star-like Anemone flowers in May and June. It grows to a great height, and is perfectly hardy. No pruning is really necessary, as it is so beautiful in a wild state, running over the roofs of out-houses or verandahs, or even among the branches of trees. A little shortening, however, strengthens it.

C. lanuginosa is a beautiful species of less extended growth than those we have been considering, and is interesting as the founder of a very fine section of hybrids, perhaps, judged by individual flowers alone, the finest of all, the flowers being very large and finely formed. Therein is a very alluring bait for those with little experience of Clematis hybrids. If one is disposed to take a moderate chance of success and risk failure, he could not do better than choose Beauty of Worcester, which has large bluish-violet flowers, some as much as 4in or 5in in diameter, sometimes double in the early part of the season, and is of very vigorous growth, being more or less in bloom a good part of the summer.

Another one quite as fine is Henryi, a rather late sort, blooming in August and September, and even later, having very large pure white flowers, and growing some 6ft or 8ft high, or, under very favourable conditions, 10ft or 12ft. This lanuginosa section should be only moderately cut back, and not to anything like the extent to which the Jackmanni section are cut. They should be given some protection during the winter, for though called hardy they will not stand exposure to severe frost without some protection, though, of course, much depends upon the dampness of the soil.

The above forms a small list of most beautiful climbers, all except the last two being absolutely reliable with fair treatment. The florida and patens sections include some very beautiful hybrids, the former section mostly double-flowered, and the latter very large-flowered. No pruning should be done to those in either of these sections as they flower on the old wood of the previous year. The patens section are specially valuable, as they bloom so early in the summer. As to the best of the twenty or so named sorts in these two sections, the discreet policy is to say nothing, as there is not one of them that can be guaranteed not to disappoint the purchaser.

C. florida is a Japanese species whose varieties mostly flower in June and July. Occasional flowers appear, however, from April to September. It grows 9ft to 12ft high, with ternately decomposed leaves, and ovate-acute entire leaflets. The illustration depicts the form and character of the creamy white flowers (with purple stamens in the centre) of this species.

The ways of growing the Clematis are numerous and diverse. Few plants are so well adapted as they are for both climbers and bedding plants. The most robust of the family will run to a height of 20ft to 30ft, and these are well adapted for the most usual purposes to which the Clematis is put, namely, to run over arches, pergolas, verandahs, out-houses, unsightly walls and fences. They form splendid pyramids if rough branches are set up in pyramidal fashion and the plants allowed to run all over them. Another effective use for these very strong growing sorts is to let them run up into trees, the effect of a sheet of blossom at the top, or coming out at the side, of a sombre Holly or Yew being very striking, and yet very natural and graceful. To succeed in this way they must be planted some little distance from the stem of the tree, so that they may get a sufficiency of moisture and nutriment. When they have got well up into the tree, say after the second season, they will need no further attention beyond seeing that the growth does not get thick enough to kill any part of the tree.

Yet another excellent way of growing the Clematis, whether tall, medium, or dwarf, is in beds. Varieties such as Henryi and Beauty of Worcester make a good show if a single plant is put in a round bed about 3ft in diameter, and by means of a few sticks or small branches trained in spherical or pyramidal fashion over them. One or two such beds on a lawn with plenty of space round them show to great advantage. It is as large beds of Clematis that the finest effect of this sort is produced, a number of plants of the same variety by preference being put round the edge of a large bed, the number depending upon the nature of the growth of the sort chosen, the less rambling sorts being about 2ft apart, and the rampant growers 3ft to 4ft. If the bed has a very great diameter, or the sort chosen is not very vigorous, a couple of plants may be put in the middle of the bed as well. A stout stake or post should be driven into the centre of the bed, leaving it 3ft or 4ft high. Round the edge of the bed strong sapling sticks of Sallow or Hazel should be stuck in at 2ft or 3ft apart, bent to the centre and tied to the central post, while a few strings should be run round the bed and attached to the sticks at convenient distances apart.

The plants will completely cover up this arrangement at the second season if not the first, and though there will not be much show the first season unless exceptionally good plants are

obtained, the second season it will be a vast sheet of blossom. Before a bed is planted in this way it should be turned out to a depth of 3ft, and a large quantity of manure mixed with the soil as well as a good dressing of basic slag. If the soil is poor in lime some chalk or lime or mortar rubbish should be added. It should be borne in mind that a bed of this sort will not get

For this method of growing the larger the bed the greater the effect produced, the height of the centre being proportioned to the size of the bed. The most suitable varieties for a bed of this sort are those belonging to the Jackmanni section, as they are very free flowering and last a long time in bloom. Some sorts are very effective on the wall of a house, especially the moderate



Clematis florida,

anything more than a top-dressing for some years, as the Clematis resents being moved, or at least takes a year to get over it, while, when it has become established the soil for 2ft or 3ft round a plant becomes so permeated with roots that it is impossible to dig in much manure without injury to it. Hence the necessity of making a good preparation at the start which will last for some years.

growing ones. It is a mistake, however, to grow the more rampant sorts in this way, as they want a good deal of nailing or tying up, and if neglected for a few days the more succulent growths, such as Jackmanni alba, will lose a number of their best shoots through being broken off by the wind at the nodes, and when so broken off they rarely produce side shoots to take their places.—A. PETTS.



The Chrysanthemum as a Cottagers' Plant.

At a recent meeting of the Devon and Exeter Gardeners' Association, Mr. G. C. Crabbe, of Prospect Park, Exeter, read a paper on "The Chrysanthemum as a Cottager's Plant." He described a cottager's plant as one requiring less attention during its period of growth than the exhibition varieties, of a hardier nature, able to stand our winter with very little protection, and, above all, of a short, sturdy habit. Until lately all these essentials in one plant were hard to get, but raisers had for the last few years studied this useful class, with the result that with very ordinary care and attention, every garden, from that of the cottage upwards, may be gay from August to severe frosts. Wet, followed by severe frost, or damp, foggy weather, is more hurtful to outdoor varieties than clear, dry frosts. Striking cuttings might be done in the open if preferred. A box about 2ft 6in by 1ft 6in, with the bottom knocked out, pressed on to a patch of light sandy soil in a sunny place in the garden makes a very useful garden frame. The cuttings should be dibbled in about 3in apart, the soil being pressed firmly round the stems. The top of the box should be covered over with some pieces of glass, shaded with an old sack, for about three days, after which they should be gradually given light. After three weeks they should be gradually given a little air by one of the pieces of glass being partly removed. The air should be increased as it is found the plants can stand it without flagging.

On frosty nights or days the box should be completely covered over with mats or sacks. A good protection is to bank the box round with stable manure, and it is well to dust the inside of the box with a little sulphur to prevent mildew. Cuttings planted in this way in the open garden seldom require water, but if they flag they should be given a little sprinkling. One good stick was generally sufficient for a short habited plant. If that is not enough, three or four should be used, and so placed as to open the head of the plant well out, to give the bloom plenty of air and room for display. If the young plant at the start is on a single stem, after having been a few days planted, the top or growing point should be nipped off. This will cause the side shoots to grow out from the parent stem. Should one side shoot grow faster than another, this should be stopped by pinching its point, thus forcing more growth into the slower shoots. This pinching should be discontinued a week before Lady-day, or the blooming season will be retarded. The plants should never be allowed to flag, and should be watered when necessary. Caterpillars, green fly, &c., must be carefully watched. Soapsuds, warm, are good both for removing the pests and feeding the plants. A little disbudding will add to the size of the individual blooms. When the flowering is over there should not be too much haste in cutting the old stems down. It should be first seen that young suckers for next year are coming up from the ground. Mr. Crabbe, in conclusion, gave a list of plants which he considered good sorts. Mr. Sidney Baker presided. A bunch of blooms, cut on January 29 from the open ground near Exeter, were exhibited to show the possibilities of the variety (Earl Canning) as a border plant.

Grafting Apple Trees.

No time should be lost in completing the grafting of all trees necessary, as the sap is fast rising for this purpose. It is much better to cut down all worthless varieties, and regraft with others more desirable, than to continue year after year to encourage those that are occupying valuable space. So peculiar are the circumstances regarding the growth of certain Apples and their manner of producing fruit, as well as their value afterwards in certain localities, that no universal law can be laid down as to the worthlessness or otherwise of certain sorts. For instance, I have just had cut down 200 bush trees of Ecklinville Seedling, eight years planted, not because the trees did not fruit, but because the fruit is worthless in this part. Fruiterers complain of the manner in which the soft skin of this Apple becomes disfigured by the frequent handling which is necessary in the fruiterer's business. Upon these 200 trees I have had nearly 1,200 grafts put on, an average of six to each tree. The sorts now employed are Worcester Pearmain, Cox's Orange Pippin, Lord Grosvenor,

Warner's King, Bismarck, and Blenheim Orange. All of these are approved sorts in this neighbourhood.

Opportunity was seized to make the trees stand upon longer legs by cutting away the lower branches, as the grass amongst the trees is occupied by poultry, which are a useful adjunct to the orchard. Care should be taken in sawing off the branches not to split the bark, paring off the edges smoothly afterwards. Leave 6in of branch for each graft, putting one graft on each stem.

Whip or tongue grafting is the most suitable for such stocks and time of the year. Make clean cuts in both scion and stock, fitting the tongue perfectly in each case, taking care that the bark and growing wood, or alburnum, of the graft comes into contact with the similar layer in the stock. Firmly bind the graft to the stock by the aid of a broad strip of bass, afterwards rendering the whole airtight by the aid of grafting wax, put on quite hot.

Although it may be advisable to take off the grafts during the month of January, for instance, it is not absolutely essential to success. From the tree direct at the time of use the grafts may be taken, choosing, of course, those with dormant buds, using due discrimination between wood and fruit buds, as I find grafts taken from young, vigorous, growing trees of some sorts are smothered with fruit buds instead of growths—the result of last season's drought presumably. As time goes on, and the grafts make 6in of new growth, a small stake will be required to support each graft, tying the stake to the opposite side of the grafted branch.—E. MOLYNEUX.

Certificated Plants.

(Continued from page 270.)

The Narcissus.

The first of the long roll of species and varieties of the fragrant Narcissus to gain recognition at the hands of the Floral Committee of the R.H.S. was *N. Tazetta flore-pleno*, from Messrs. Veitch and Sons in 1864, followed by *N. juncifolius*, when shown by Messrs. Backhouse and Son in 1865, when it received a First Class Certificate; but it was not till twelve years after that the same award was made, in 1877, to *N. calathinus* (Blanchard), and to *N. rupicola* (Elwes). The Daffodil bloom, which has permeated the United Kingdom, become a great industry in Holland, which has extended to the United States of America and especially to our Colonies, had then commenced, for in 1878 Peter Barr was to the fore, and gained an award for *N. incomparabilis aureo-tinctus Leedsi*; for *incomparabilis albidus expansus* in 1879; but no other award was made until 1883; then to *incomparabilis pallidus Princess Mary*, and to *pallidus præcox* (Barr); to *bicolor J. B. M. Camm*; *incomparabilis James Dickson* (Dickson and Sons); to *incomparabilis sulphurea Queen Sophia of the Netherlands* (Barr); and to *Leedsii Queen of England* (Barr) in 1884. During the next three years several were similarly recognised; but it was since 1890 that the great rush of novelties came. The name of the Rev. Mr. Engleheart appears first in 1894, gaining awards for *incomparabilis Lulworth* and *poeticus Albatross*. Since then the progress of Mr. Engleheart as a raiser of new varieties has been triumphant. He has enriched our collections of Daffodils beyond all hope or thought, and he is still in the heyday of his successful work. Some new introductions have come from abroad. Some have appeared unexpectedly in places in this country without any record of origin. It is surprising to think that thirty-five years ago we imported from Holland with polyanthus (*N. Tazetta*) varieties only two single trumpet forms, viz., *Trumpet Major* and *Trumpet Sulphur*, and in addition the sweet-scented and *Campernelle Jonquils*, the double varieties—*Van Sion*, *Orange Phoenix*, and *Sulphur Phoenix*—and the *Hoop Petticoat Narcissus*, with *poeticus* and its double form, and now, the culture of the Daffodil, in addition to what are grown in private gardens, is a huge industry in the production of cut bloom and dried roots, and has given rise to exhibitions of Daffodils held in different parts of the country. But so it is. It is curious also to note that only one variety of the *Tazetta* section has gained an award, and that a double variety, as far back as 1874; it was probably a form which has disappeared; the double Roman is the only one which appears in seed lists.

Nasturtium (correctly, Tropæolum).

Under this heading, and that of *Tropæolum* also, a few forms of the *Nasturtium* have gained awards, both dwarf and trailing. The dwarf dark crimson flowered *Empress of India*, certificated when shown by Messrs. Carter and Co. in 1882, is one of the most popular and useful of annuals. A newer dwarf form, named *Mrs. Sanderson*, an excellent dwarf bedding variety, with dark maroon-crimson flowers, had an award in 1897. A few years ago a very useful dwarf compact section, obtained originally by Mr. J. George, when at Stamford Hill, was much grown. They had a

great advantage over the ordinary dwarf Nasturtiums in that they produced but few seeds, and were therefore much more persistent in flowering. I obtained awards for a few improved varieties when grown at Chiswick, viz., Bedford Rival, scarlet; Yellow Compactum Luteum, improved, yellow; and Lustrous, crimson. They are probably still to be met with, and as they seed sparingly a stock should be kept up by means of cuttings.

Nemesia.

A representative of this genus, known as *N. strumosa* Suttoni, gained a certificate for the introducers, Messrs. Sutton and Sons, of Reading, in 1892. It is a very distinct type, producing orange flowers of various shades, some with brilliant fiery tints, and a quite dwarf growing section has been selected from it. As seeds are high priced, the presumption is it produces them but sparingly. It is seen at its best when grown in pots.

Nemophila and Nepenthes.

It is twenty years ago, since a *Nemophila* obtained an award from the Floral Committee, when Messrs. Carter and Co. exhibited *N. atomaria* atro-cerulea. The large flowered forms, *N. insignis* and *N. maculata*, do not seem to be capable of improvement, as no varieties of either have been produced.

From the time that *Nepenthes* Dominiana (probably the first garden hybrid raised) gained a Certificate of Merit when shown by Messrs. Veitch and Sons in 1862, till the present time, new forms, occasionally introductions from abroad, but more frequently of late, garden hybrids, nearly three dozen awards have been made, mainly to the firm just named. Some have very large pitchers, like those of *N. Rajah*; some have small ones; all are more or less finely marked. A large specimen plant laden with its curious leaf appendages is indeed a remarkable sight. They are highly ornamental as well as interesting and curious, and are popularly known as "Pitcher Plants."

Nerine.

The old Guernsey Lily (*N. sarniensis*) which is imported from Guernsey early in the autumn by the bulb dealers, and which, true to its instincts, will bloom in a dry state, has been so long in cultivation as to be known to all; but of late years, in the hands of Mr. H. J. Elwes especially, many new forms have been obtained, a dozen or more awards having been made to new varieties raised by Mr. Elwes since 1897. In making his crosses this successful raiser has no doubt employed such species as *N. curvifolia*, *N. flexuosa*, and *N. sarniensis*. As far back as 1864 a Certificate of Merit was awarded to *N. coruscans* major, a form of *sarniensis*. In 1887 the same honour was obtained by *N. Manselli*, and in 1888 *N. excellens* had also a certificate, and *N. flexuosa* major in 1896. Since then all the new forms have come from Mr. Elwes, and shades of pink, rose, cerise, and even a tint of blue characterise the improvements. A favourite form is known as *N. Fothergilli*, with its variety major. Top-dressing rather than repotting is followed in the culture of *Nerines*. They bloom chiefly in the autumn and winter, but vary with different species and their varieties, according to the habit of blooming before or after the leaves appear. A period of rest is necessary, when the pots should be placed in a cool place and the soil allowed to go perfectly dry, until the time of activity commences.—R. DEAN, V.M.H.

(To be concluded.)

Iris Kämpferi, the Japanese Iris.

From "Le Moniteur d'Horticulture" we extract the gist of an article by Otto Balliff on the treatment and varieties of the above Iris, as follows: "At last we respond to the desires of our readers for notes on the culture of these choice Japanese Irises. We counsel the springtime as the best period for planting, choosing a position well exposed to the sun, and a soil that will be constantly saturated by water during their period of growth. In winter, on the contrary, stagnant water is useless to them, and it is then necessary to cover the rhizomes with dry leaves or litter in order to protect them from severe frosts. *Iris Kämpferi* does not like to be increased by division. This operation harms the plants and causes degeneracy. The propagation by seeds is preferable for obtaining vigorous plants such as those imported each year from Japan to England. Within the last few years horticulture has been enriched by a number of beautiful varieties. Hereunder are some of the choicest of these, which we have admired and noted at the principal exhibitions in Great Britain:

AIDA.—Large, single flowers; crimson, veined with violet.

CLEOPATRA.—Enormous double flowers; purple-violet with an orange centre.

CALYPSO.—Large single flowers; lilac, veined with crimson.

HAMLET.—Magnificent single flower; violet and purple.

JERSEY BEAUTY.—Enormous double flowers; white, with yellow centre.

LEONIDAS.—Large double flower; crimson, with centre nearly black.

MACBETH.—Single flower; pale blue, with white centre.

MIQUELLI.—Single; lilac, streaked with purple, orange centre.

OBERON.—Enormous double flowers; tender lilac, centre blue.

OPHELIA.—A splendid, large, single flower; pure white.

PENELOPE.—Double flowers; purple, veined with lilac, centre shaded yellow.

SATURN.—Large double flowers; purple shaded and blue.

VENUS.—Enormous double flowers; delicately tinted with tender rose.

The exceptional beauty of these brilliant flowers, and the relatively modest prices of the rhizomes, will doubtlessly strongly attract our readers to procure some of the varieties, which may easily be had from the leading nurserymen."

[For water and bog gardens these Irises are indispensable.—Ed.]

Fumigation Methods.*

In the various States of North America, but New York and California especially, the power of hydrocyanic acid as a means for destroying the many pests that infest the fruit tree orchards and greenhouse plants has been gradually discovered by careful experiments carried on by State entomologists and chemists in the country during the last fifteen years. It was in September, 1886, that Mr. D. H. Coquillett, of the U.S. Department of Agriculture, began seriously to study the methods of fumigation, and extensive experiments were tried, during which the idea of using hydrocyanic gas was conceived and eventually thoroughly tested. Others took up the matter. Fruit growers lent their trees and assisted at the trials with the new gas; essays were read and pamphlets prepared, and gradually the new discovery found favour far and wide. True enough, the system is even now only moderately practised; but from all accounts it would seem that its efficiency has been made perfectly manifest, and its further application is almost a certainty. The book written by Professor W. G. Johnston is the first that has appeared treating exclusively on fumigation in all its phases. Mr. Johnston himself has been to considerable expense and trouble in testing the economic use of hydrocyanic acid; but to detail, even in outline, the results of his work would necessitate much more of our space than can be afforded. But the following are facts as published which may be of service to home cultivators who would care to experiment with hydrocyanic gas. The chemicals used for generating it are: (1) Fused cyanide of potassium, (2) sulphuric acid, and (3) water. The cost for young nursery trees, we are told, is only 25 cents per 1,000 trees, and the fumigating can be performed in less than an hour without any danger to the trees. It has been found that the foliage must be first of all dry, or nearly so. Plants are less injured by a short exposure to a relatively large amount of gas than by a long exposure to a relatively small amount. Experiments have shown, too, that the gas was most injurious to foliage on sunshiny days in autumn between 9 a.m. and 4 p.m.; that dormant leaf and buds treated with 0.20 gramme cyanide per cubic foot were not injured; that trees treated in the morning before 9 o'clock and in the afternoon after 4 o'clock, even in sunshine, have the leaves little affected; that trees treated at night with normal doses do not have the foliage hurt at all. Plum, Peach, Nectarine, and Apple trees, together with Strawberries, Roses, Cucumbers, Melons, Vines, and many greenhouse plants have all been put upon trial, and it has been found that some varieties of the respective trees or plants are more susceptible to injury than are others. The normal strength of the gas in the majority of cases was 0.25 gramme per cubic foot exposed for one hour at the longest. This is the strength recommended for all nursery stock above 3ft in height. A number of chapters in this decidedly useful book are devoted to descriptions of the apparatus and equipments, in the form of bell tents, boxes, and sheds, used for fumigating nursery and orchard stock. The illustrations are both liberal and elucidatory. The caution is given never to fumigate trees after the buds have begun to open in the spring. At the same time, Mr. A. D. Hall, of Wye College, in Kent, we believe, has successfully fumigated Vines while in leaf and bloom with this gas without doing harm. No animal or insect seems to be able to breathe it and live; and in America it has been also employed against bugs, rats, mice, prairie dogs, &c. We should like to know of further experiments being made in England—say at Chiswick, for example—as, when carefully and skilfully used, this gas would seem to be efficacious, cheap, and prompt in its action. Professor Johnston has gathered all the available information on the subject, and has also obtained reports from most of the States of the Union, from Europe, Canada, and Australia. We earnestly recommend his book to our readers.

* "Fumigation Methods," by Professor W. G. Johnston. New York: Orange Judd Company, 1902. Price not stated.



Self-Education for Young Gardeners.

One of the features of last week's *Journal* was the article from Mr. Divers, containing as it did matter that must have soothed somebody's ambitions in the bothies far and wide, and have also spurred to a new attempt probably some who required encouragement at the moment. Apart from the need for knowledge by those who would ascend to offices of responsibility, its possession must unavoidably convey a consistent fund of quiet gratification, and be the principle that causes one man to be singled from others by his reserve, his power, his straight views, and good sense. The reason why so comparatively few gardeners are students (when they have a host of conditions that might conduce to their becoming such) lies in a variety of causes, the principal being the lack of proper encouragement in their earlier days. Set a wise and studious foreman in a bothy. What a chance he has for making (or unmaking) many of those who have the rungs of the ladder mostly to climb. By his conversation he can teach, and by his example and spirited action I am bound to say the foreman could be the means of spreading a love of books and of applicable knowledge among the younger men, and especially the gardening apprentices. I know this is so, for I have had experience of it. Much can be done by the lads and young men themselves, and after a time both the love for reading, thinking, and writing, and the advance gained by the habit become so impressed that the bent can never willingly be rescinded. One of the first things to fire the ambition of the younger members of the craft would be the preparation of an essay, and the reading of it before some mutual improvement association. It is apparent that there are too few junior gardening societies in existence. Then an occasional paragraph to the "Domain," set apart in the *Journal of Horticulture*, has been the spur that has caused certain probationers to look up facts, digest so-called "dry" paragraphs, and make use of their best talents to produce those readable letters that appear in the column named. I am one of those who think that more might be accomplished for the teaching of gardeners by the horticultural press, and I daresay we may some day get more of a general nature than we do now.—J.

Gardeners and their Studies.

As I sat musing a few evenings ago, my eyes fell on two recent numbers of the *Journal* (March 13 and 20). The 13th, of course, being the Spring Number—it is *truly* a Spring Number, and I feel very grateful for the good work the *Journal* is doing for the horticultural cause. To an outsider, gardening is a dull job; to an enthusiast, it is quite the contrary; but I certainly think it must lose much interest to those followers of the profession who can find nothing interesting and enlightening in the perusal of gardening periodicals. It hardly seems possible that there should be such individuals, but from experience I know such do exist. Mr. Brotherston, on page 233, writes:—"I believe young gardeners no longer make a study of field botany." I am very glad he used a note of interrogation, for that at least shows him to be in doubt. [The interrogation was the Editor's.] I guess it is to-day very similar to Mr. Brotherston's time, each having his different pursuits, some finding pleasure and recreation in this thing, and others in another. No, Mr. Brotherston, field botanists from the bothy are not quite extinct, and if you had seen the various plants and flowers brought home for a closer inspection and a truer identification, as I have done, you would not think they had forsaken a study perhaps to you almost sacred. The study in itself is beautiful, and it helps a would-be gardener to observe and learn when to the uninitiated there is nothing to learn. I am far from being a good student, being much too lazy, but I was not writing about myself; although as far as I have gone into the study I have found it both interesting and educating. It teaches from observation the links that exist between the cultivated and the wild plants; the natives and the exotics. Woe-worth the day when field botany and the bothy become absolute strangers. When I was at school—not long since—we had observation lessons every day, and the method employed was both practical and edifying. We were supposed to make mental notes of anything and everything we thought worthy of notice, and it went hard with the fellow who observed nothing unusual, or worthy of notice, coming to school that day. It was one of those practical lessons that I shall never forget. Nature-study and observation go hand in hand; without the latter it is impossible to become proficient in the former. I would ask those readers who are field botanists if they know aught

about *Hypericum humifusum*? I wish to know where it is to be found at home, and would be pleased with the least information regarding the plant.

I turn to the 20th, page 256, anent the very interesting column signed "Kentish Cob." How often has not the same subject been talked about, read about, and written about, and it will go on till doomsday—no good hardly apparent coming from the teachings, and yet it would never do to give up. But as in other paths of life, so in gardening, there always have been those who will not try to make a study of their work so as to improve themselves and their companions, and I guess it always will be so; still, that fact will not put practical gardening back. It is consoling to know there are many who take interest in their work enough to study it in their hours of leisure. It is this class of men who will probably secure the plums in the profession, and the illiterate ones will learn the lesson too late they should have learned. It is not surprising, though, when the matter has both sides examined, that there are fellows who decry the study of the practice and theory of gardening after work hours. I know of a case myself where a very good gardener on paper was, I may say, a perfect fool at his work; in fact, he was a subject for ridicule to those under him, and his great learning was often brought in a very sneering manner under his notice. Can anyone wonder, when such cases as the above are to be met with, that young gardeners learn early to despise the man who studies? I have often heard the remark passed, "Oh, yes, a very good man, but not much of a gardener." That man could tell you the natural order and generic name of every plant he had, and much more beside, but to the improver and journeyman the thought often comes, Botany does not make a gardener; look as So-and-So, he is a thoroughly practical man, he scarcely knows anything about the sciences. The fact alone proves the wisdom or folly of the thought. Gardening is no doubt still improving, and will continue to do so, despite croakers.—H. R., Kent.

The Bothy.

I should like to pass a few remarks, some of them rude, no doubt, but none the less true, anent the, to young gardeners, all-absorbing topic which is being discussed in our *Journal*, namely, the bothy. What is a bothy? One dictionary says it is a cottage in which unmarried servants of either sex are housed together; an older dictionary says it a rude hut or dwelling. Personally, I favour the latter description, as to liken the average bothy to a cottage is an insult to almost any cottage. The outside appearance of the generality of bothies does not impress one as being a desirable summer or winter residence; inside it is worse. The walls and ceiling of what is called by courtesy the kitchen being an indescribable colour, or rather variety of colours. There is a scarcity of crockery and cooking utensils, and the furniture (?) reminds one of the popular song, "All Wobbly." In not a few instances it is the master or mistress, as the case may be, who is to blame. When approached on the matter they assume a bored expression, and intimate that in their opinion improvements are not necessary. It is this type of employer who, as a rule, expects the most and the best that young men can do for them, and it is needless to state they very seldom get it. As your correspondent, "A Foreman," remarks, it is the gardener who is to blame in the majority of cases: but there are a great many cases in which the foreman, as head of the bothy, is to blame, he being either too timid or too careless to mention it to the gardener. When the young men have to cook for themselves, as is often the case, it is not reasonable to expect a man to have his heart in his work. If they look to the bothy too much and their meals, their work is neglected. If, on the other hand, their thoughts are centred on their work, their meals, and consequently their healthy appetites, are neglected. Very often do they go in to dinner to find the dinner cooked to a cinder, or the reverse—not cooked at all. Then the air is filled with numberless blue streaks, caused by the utterance of language which no self-respecting machine would print, as first one and then another declares he will stand it no longer, but will give in his notice, and just as quickly declares philosophically, "Oh, well, it might be worse." Yet, with all its drawbacks, bothy life seems to have a curious fascination for young gardeners. Whether it is the free and easy life, or what it is, is not easy to determine. It might be inferred with impunity that your correspondent, "Kentish Cob," is not a bothyite; too much of one thing becomes a bad thing. The old saw, "All work and no play," &c., is too deeply impressed on the memories of most young gardeners to allow them to spend all their leisure time studying. Young men who have a taste for reading, and happily there are few who have not, will indulge their tastes according to the kind of literature they prefer. I have seen a young gardener cramming himself with the contents of a cookery book with evident relish, and it must be admitted with more eagerness than he would have displayed had it been a garden paper. If a young man with three or four years' bothy experience has not sense enough to make up his mind what to read

and what to do, it is pretty safe to assume that he will never have sense enough to make a good gardener. As for the "so-called music," most homes possess musical instruments of some kind or other; some of them instruments of torture, no doubt. As the bothyite cannot take a piano about with him, he has to console himself and annoy other people with a violin, melodeon, &c., or the still more humble mouth organ. Taking everything into consideration, bothyites are, if not a contented, a happy class, which is a good thing for them and for those around them. For the present I am afraid we shall have to be content with airing our views, and hope for better things, if not for this, for a future generation of bothyites.—ONLY A BOTHYITE.

The two recent letters on this subject of much importance to young gardeners, from Mr. J. Botley and "Modesto" respectively, were characteristically mild and fair. I was particularly gratified, too, with the description of the splendid bothy at Park Place Gardens, Henley-on-Thames, by the former writer, and felt that the end in view, which is that of improvement in the poorer class of gardeners' bothies, would be best served by a few more descriptions of the better equipped apartments. That of Philiphaugh, in Selkirkshire, has a reading-room, a bath-room, and other modern appointments that add a remarkable charm to the domestic existence of the men there



The late Mr. G. F. Wilson, F.R.S.

engaged. At Sion House, Brentford, Mr. Wythes has had a very complete and valuable library instituted, where, also, the leading gardening journals are to be had. The Royal gardens at Sandringham also provide a model bothy for the journeymen gardeners, and set a pattern to every aristocratical demesne throughout beautiful England and bonnie Scotland. Years ago the ladies of society followed a certain fashion—that of walking with a limp—because our Queen, then Princess of Wales, owing to an injured knee was obliged to walk haltingly. To follow, or to make limping a fashion because the First Lady limped was most contemptible, but the minds of these same limping ladies seemed destitute of that human sympathy which would awaken inwardly the desire to follow Queen Alexandra's lead, and see that the ordinary civilised comforts of the present day were being enjoyed by those who minister to their delight, recreation, and sustenance in their gardens. When the young gardener, as an employé of well-to-do people or old aristocratical families, writes to the pages of a horticultural weekly he must fear that the proper source, the fountain-head for which his petition is intended, is seldom reached, and, indeed, this is probably true. At the same time, "keep dinin' awa'." In these days gardening is enthusiastically pursued by a large and ever increasing coterie of the class who are employers of gardeners, and perchance seeds fall on good ground by every "sowing" that is weekly made. This in metaphor. I long for the time when all gardeners will be esteemed as men of intelligence, men of purpose, men with a high self-respect and thoroughly up-to-date in that which pertains to the profession, and I feel that these ideals are hindered by the bothy conditions, the life conditions of—40 per cent., shall I say?—of the young horticulturists in Great Britain and Ireland in these days.—D.

The Late Mr. G. F. Wilson, F.R.S.

In our brief memoir of the late Mr. G. F. Wilson, of Wisley, in last week's issue, we referred to his whole-hearted love for gardening and for flowers. He was one of a coterie who have accomplished a great and good work—that of popularising the hardy plants of our beds and borders. During the last thirty years English gardening has been almost completely altered to its present naturalistic lines, where exotic genera and species of plants are made to flourish in British gardens as they do in their home habitats. By the courtesy of Mr. E. T. Cook, co-Editor of "The Garden," we are furnished with an admirable likeness of the late Mr. Wilson as he appeared shortly before his decease.

Societies.

Royal Horticultural—Scientific Committee, March 25th.

Present: A. D. Michael, Esq., in the chair; Rev. W. Wilks, Messrs. Worsley, Douglas, Chapman, Nicholson, Odell, Druery, Hooper, Boulger, G. S. Saunders, C. E. Shea, Drs. A. B. Rendle, Hugo, Müller, M. C. Cooke, and Masters.

Narcissus Disease.—Rev. W. Wilks brought specimens in which the bulbs and roots appeared healthy, but the leaves turned brown, and decayed from the tip downwards. The malady is stated to be widely diffused, but at present no light has been thrown upon its cause.

Hybrid Tropæolum, &c.—Mr. Worsley showed flowers of a hybrid raised between *T. Lobbi* and one of the garden *Tropæolums*. A hexamerous flower of a *Tydea* was also shown, in which the stigma was trifid. A zonal *Pelargonium* was exhibited in which the edge of the leaf was bordered with red, as happens in decaying leaves, whilst the flowers, usually white, were in this case suffused with salmon-pink in the centre.

Proliferous Strawberry.—Mr. Hooper showed a coloured drawing of a Strawberry, in which small plants are developed on the receptacle in the place where the "achenia" ought to be.—(See "Vegetable Teratology," p. 116.)

Grub on Rose, &c., taken from a tunnel in a Rose Stem.—Mr. Chittenden sent a specimen for naming, and this, on being submitted to Mr. Saunders, has been determined to be the grub of some hymenopterous insect, such as causes galls on Roses, especially the form called *Bedeguar*, or *Robin's Pincushion*. Mr. Chittenden also sent the seed or pip of an Apple containing two embryo plants—the supplementary embryo having probably been developed from one of the synergidæ.

Peloria on Cattleya.—Dr. Masters showed an illustration of regular *peloria* in a *Cattleya* which he had received from Messrs. Veitch. In this flower there were three sepals of equal size and similar form; alternating with these were three regular flat petals, the lip being represented by a petal in size, shape, and colour like the lateral petals. This flower is probably a reversion to the earlier and simpler conformation from which the peculiar Orchid structure, as we now know it, has evolved. The column was in the normal condition. It is noteworthy that this flower was produced on a plant that was a hybrid between a *Cattleya Schroderæ* and *Brassavola Digbyana* var. Evidences of the cross being very obvious in the normal flower, whilst in the *peloria* the appearance was that of a degenerate *Cattleya*.

Schizophyllum commune.—From Chiswick came a fungus said to have grown on the "Panama Pear." The fungus was determined by Dr. Cooke to be the above-named species.

Pitcher on Leaf of Pelargonium.—Mr. Cooper sent a specimen showing a funnel-shaped leafy cup in place of the inflorescence.—(See "Vegetable Teratology," p. 313, for a similar production on the leaf of a Cabbage.)

Trill Hall, April 8th.

The magnificence and quality of the meeting on Tuesday last has not been equalled since midsummer of last year. The early April shows are always brimful with interest, and after the dullness and coldness of winter the exhibits of forced Roses, Tulips, Daffodils, Rhododendrons, Cratæguses, Laburnums, and many other things of this ilk—these appeal to the lover of flowers more perhaps than at any other period. And though Tuesday was so cold, both in the unheated Hall and outside, there was a wonderful array of all sorts of flowers, in season and out of season. It would be invidious to detach any one section and praise it apart—all were good and lovely. But oh! the dust and the hum and the jostling crowd! So many people were there that one lost half the pleasure of the meeting. The floors, too, were very dusty. Comparatively few certificates were accorded.

Orchid Committee.

Present: Harry J. Veitch, Esq., with Messrs. James O'Brien, de B. Crawshay, H. M. Pollett, H. Ballantine, E. Hill, Jas.

Douglas, N. A. Bilney, W. Thompson, H. T. Pitt, J. W. Odell, F. J. Thorne, W. H. Young, W. Boxall, T. W. Bond, J. Wilson Potter, J. G. Fowler, and H. Little.

J. Gurney Fowler, Esq., Glebelands (gardener, Mr. J. Davis) set up a group of Orchids remarkable for its brightness, banked as it was by massively clustered plants of *Dendrobium Devonianum*. One plant out of three in a very tiny pan bore over 400 of its beautiful tricoloured flowers.

H. F. Simmonds, Esq. (gardener, Mr. Geo. E. Day), Woodthorpe, Beckenham, had on view a plant of *Cyrtopodium St. Legereanum*, which much resembles *C. palmifrons*, a new species that flowered last year at Kew. The plant is not very showy, and grows ungainly.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, contributed *Saccolabium ampullaceum*, prettily adorned with well-set spikes; also *Cattleya Schröderæ alba*, Low's var, *C. S. Phyllis*, and *C. S. aurantiacus*.

Thomas Carruthers, Esq. (gardener, Mr. G. Collip), Gaskmore, Reigate, showed a handsome form of *Odontoglossum Wilckeanum* named *Carruthersi*, with large flowers, having yellow ground and blotched with chestnut brown. Walter Cobb, Esq. (gardener, Mr. J. Hawes), Dulcote, Tunbridge Wells, likewise presented a nobly flowered specimen of *Odontoglossum triumphans* var. *Cobbiae*, with larger and grander flowers than the type.

S. Cook, Esq., Tankerville, Kingston Hill, Surrey, had a plant of *Lycaste Skinneri*, having eight large, fleshy, and deeply coloured flowers. Mr. Cobb, already reported, staged a handsome *Cypripedium*—*C. Mary Beatrice*, a successful cross between *C. bellatulum* and *C. Goweri magnificum*. The colour is rich dark purple with black spots; bold dorsal sepal, protruding pouch, and forward curving petals. The *bellatulum* has certainly had considerable influence on the form of this fine flower. Cook's variety of *Odontoglossum crispum* is a remarkably pure coloured and solidly built flower. The ground is smooth and white, with bright chocolate marks on each segment.

In addition to the *Cyrtopodium* already referred to, Mr. Simmonds staged a beautiful piece of *Odontoglossum Pescatorei* *Leeanum* bearing some thirty-six flowers, nicely coloured mauve and white.

Captain Holford (grower, Mr. Alexander), Westonbirt, Tetbury, Gloucestershire, set up *Cattleya Schröderæ* and *Odontoglossum elegans*, Westonbirt var. Both plants were well flowered and creditable pieces.

Cypripedium Wm. Lloyd *superbum* came from Norman C. Cookson, Esq. (gardener, Mr. H. J. Chapman), Oakwood, Wylamou-Tyne. The plant bore a twin-flowered peduncle, with heavy and richly coloured flowers. Sir F. Wigan, Bart., was also to the fore with *Miltonia Bleuana* and *M. vexillaria* var., both of them fine flowers. The former is remarkable for its size and purity, the latter for its depth of rich rosy pink, with deep purple blotch in the centre. Mr. James Douglas, Edenside, Great Bookham, staged an enormously vigorous inflorescence of *Phaius Sanderiæ*, with its brownish tinged segments and pale mauve lip.

de Barry Crawshay, Esq., Sevenoaks, showed *Odontoglossum x Crawshayanum* *Theodora*, a cross between *O. Halli* and *O. x Harryanum*. The flowers are large, and the blackish brown contrasts well with the bright yellow of the segments.

Baron Schröder, The Dell, Egham, sent a "group of cut flowers," not the usual group of border flowers usually to be seen, but all of them choice Orchids. Here were included *Odontoglossum crispum* *Rex*, *O. Leeannum*, *O. triumphans*, and *Lælia Edissa*, the latter a specially fine flower.

Hybrid *Lælio-Cattleyas* were the chief plants in Messrs. J. Veitch and Sons, Limited, group, and from amongst numerous others the more striking were *L.-C. Myra* var *Princess of Wales*, that fine bright orange yellow sort now become known and appreciated; *L.-C. Lucilia*, with rich lip; *L.-C. Highburiensis*, mostly rich purple and delicate in structure. Of the *Lælias* we remarked *latona* in *Al* form, and good examples of *L. Mrs. M. Gatrix* (golden amber), were also in evidence. Nor must the *L. C. Duvaliana*, large and noble, be forgotten. The segments are pure white, the lip being beautifully tricoloured—yellow back in the throat, purple at the apex of the lip and white. Other choice novelties noted were *Chysis Sedeni*, *Masdevallia Circe*, and *Chysis Chelsoni* (Silver Flora Medal).

Messrs. Sander and Sons, St. Albans, had *Phaius Normani nigrum* and *P. Marthæ*, bearing tall and robust spikes of undoubted excellence. They had a number of other valuable Orchids. (Silver Banksian Medal.)

Messrs. B. S. Williams and Son, Upper Holloway, London, N., came forward as of yore, showing amongst other things *Trichopilia lepida*, *Cattleya Mossiæ*, *Odontoglossum triumphans*, *Ada aurantiaca*, *Odontoglossum Andersonianum*, *Cattleya Mendeli*, and other species.

Floral Committee.

Present: Geo. Paul, Esq. (in the chair), with Messrs. Chas. T. Druery, Geo. Nicholson, R. C. Notcutt, F. Page Roberts, John Jennings, Wm. Howe, J. W. Barr, Chas. Dixon, R. W. Wallace, Chas. Jefferies, Herbert J. Cutbush, J. A. Nix, H. J. Jones, Wm. Cutbush, W. P. Thomson, E. H. Jenkins, R. Wilson Ker, Harry Turner, Chas. E. Shea, and W. Marshall.

Messrs. W. Paul and Son, Waltham Cross, Herts, had a very fine staging of seedling Roses (Tea and Hybrid Tea) in 8in pots. All have been raised, we heard, within the last three years, and some have not yet been named. Amongst those of merit which have received appellations are *Teas Jean Ducher*, *Boadicea*, *Golden Gate*, *Marie Louise Garet*, *Madame Ravary*, and *Alexandra*; *H. Teas*, *Rosamond*, *Gavereaux*, *Liberty*, *Souvenir de Madame Eugène Verdier*.

Messrs. Wm. Cutbush and Son, Highgate, were represented by a choice collection of forced flowering shrubs, amongst which *Azalea Ennarniana*, *A. indica*, *Professor Walters*, *Viburnum Opulus*, *Magnolia Soulangiana*, *Cytisus Laburnum*, with many varieties of *Prunus* were prominent as objects of great quality and good culture.

Messrs. Hugh Low and Co., Bush Hill, Park, Enfield, had a charming group near the entrance of *Crimson Rambler* Roses, with *Viburnum Opulus* sterile, *Lilacs*, *Magnolia Helleana stellata*, *Pyrus Malus floribunda Schredeckeri* in good form, with *Hydrangea paniculata* in 3in at the base, many of which were of quite a bluish tinge. The deep pink new *Rambler* Rose, *Queen Alexandra*, was also included.

Messrs. John Laing and Sons, The Nurseries, Forest Hill, S.E., had a varied and interesting collection of forced shrubs behind the curtain against the entrance, amongst which were *Rhododendron Camille de Rohan*, *Azalea lilacina*, *A. mollis*, *Deutzia Lemoinei*, with *Prunus triloba*, *Wistaria sinensis*, &c.

Messrs. B. S. Williams and Son, Upper Holloway, staged a collection of foliage plants, as *Palms* in variety, *Bamboos*, *Acers*, and *Aspidistras*. Messrs. William Cutbush and Son, Highgate, London, N., had a choice lot of *Tree Carnations*, which had been flowering since October last. The rich crimson *Winter Beauty*, in 5in pots, were well furnished with foliage and flowers, and had still a lot of buds. At the foot of this group were a few nice plants of flesh-colour *Malmaison* *Carnations*, with fine blooms on each, while pale yellow *Carnation Cecilia* in the group was of great merit.

Messrs. Wm. Paul and Son, Waltham Cross, Herts, also staged some exceedingly nice flowering shrubs of very great merit. Prominent in the group were *Xanthoceras sorbifolia* in the finest condition, a mass of creamy flowers; also a very representative lot of *Carnation-flowered Peach* (double crimson), double-flowered *Almonds*, double *French Cherry*, *Pyrus floribunda Schredeckeri*, with *Azaleas* in variety, and *Cytisus præcox* in an 8in pot in good form.

Messrs. Jas. Veitch and Son, Limited, Chelsea, were represented by a very nice collection of *Kalanchoe coccinea* (a new species), with *Adiantum cuneatum* at the base. These plants were from seeds sown in June, 1901, and were very creditable results of the practice. The flowering cymes are borne as in *K. flammea*, but the flowers differ in colour, being brick red. The plants were grown to perfection.

Messrs. Geo. Jackman and Son, Woking Nursery, Surrey, staged on one of the central tables a large and representative collection of hardy flowering plants in fine condition. *Primulas japonica* and *rosea*, *Incarvillea Delavayi*, *Tulipa Greigi* (in good form), *Polyanthus* in variety, *Cypripedium spectabile*, *Ramondia pyrenaica*, *Primula cærulea*, with a few *Narcissi*, were items in an exceedingly interesting and well-staged collection of well grown plants.

Mr. Arthur W. Wade, Riverside Nurseries, Colchester, had a small collection of hardy and bulbous plants. Amongst others we noticed *Anemone Pulsatilla*, *A. blanda*, *Muscari botryoides*, *Erythronium Hartwegi*, &c., with *Narcissi* in variety.

H. Little, Esq., Baronshalt, The Barons, East Twickenham, staged a grand lot of *Clivias* in pots, furnished some exceedingly fine spikes of blooms. Messrs. Paul and Son, Cheshunt, N., had a small collection of *Amaryllis* in 6in pots. The form and colour were good, and the collection comprised many striped varieties. The same firm also staged by the side of the foregoing exhibit a very nice lot of *Tea and Hybrid Tea* Roses in 8in pots—as *Teas Anna Olivier*, and a new one, *Queen of Sweden and Norway*, of a lovely pink, were in good condition. The standard *Teas* at the back of staging gave a pleasing effect to the whole.

Messrs. H. Cannell and Sons, Swanley, Kent, were again represented by a grand collection of cut blooms of *Zonal Pelargoniums* and stellate-flowered *Cinerarias*. Amongst the *Zonal Pelargoniums*, *Princess of Wales*, *Lord Roberts*, *Chaucer*, *Lord Curzon*, *Nicholas II.*, and *Mrs. Brown-Potter* were noticed as particularly fine. A few seedlings—a vase by themselves—promise useful additions in the near future.

Sir Francis T. Barry, Bart., M.P., had a good lot of cut blooms of *Camellias* from a very representative collection. These blooms were cut from plants that have been grown in the open ground, without the slightest protection at any time, for from three to nineteen years, at St. Leonard's Hill, Windsor, and were fine examples of what can be done with this class of flower.

Messrs. Hugh Low and Co., Enfield, had a charming collection of *Schizanthus wisetonensis*, a choice, soft shade of colour. The plants were in 6in pots, and were all of good form. *Carnations* *Mrs. Martin R. Smith* and *Calypso*, among the above, were of good size and substance.

Captain Holford, C.I.E., of Westonbirt, Tetbury, again staged a few *Hippeastrums* of good form and rich in colour. Messrs. Jas. Veitch and Sons, Ltd., Chelsea, had three large pairs of blue Primroses of varying shades. All were full of bloom, and attracted a good deal of attention. Miss Willmott, V.M.H., Warley, Essex, staged a few pots of Grape Hyacinths. Amongst others were noticed *Muscari compactum* and *M. Szovitsianum subcæruleum*.

St. George's Nursery Company, Hanwell, W., occupied between 30ft and 40ft of staging, with about 150 plants of *Cyclamen* of one and two years' growth, well furnished with blooms of fine substance and rich in colour, some being quite 3in in height. A collection of the *Papilio* strain at the end of the table were charming in soft colours, as pinks and whites.

Messrs. T. S. Ware, Limited, Feltham, had a large and varied collection of hardy plants. *Lithospermum prostratum* (that grand blue), *Arabis alpina* fl.pl., *Primulas Sieboldi*, and *P.S. rosea striata* were very fine, and other *Primulas* of variety, *Adonis vernalis*. The whole stand was very tastefully and pleasingly arranged, and was a collection which attracted a great deal of interest.

Mr. Amos Perry, Hardy Plant Farm, Winchmore Hill, N., were strong in Irises. *I. Innocence*, *I. Princess Louise*, and *Harlequin* were very pretty. *Primulas denticulata* and *Arctotis* in variety were well grown and furnished with bloom; also *Daphne Blagayana* was very pretty and sweetly scented.

Messrs. Jas. Veitch and Sons, Limited, Chelsea, again staged a collection of *Cineraria ramosa*, which must form a useful variety for cutting; also a small collection of *Hippeastrum*. Amongst others, the *Veldt*, pale terra cotta and green was unique and pretty.

Mr. Charles Turner, The Royal Nurseries, Slough, sent three large baskets of *Deutzias*—as *D. gracilis rosea* (the suffusion of red being very pretty), *D. Lemoinei*, and *D. gracillima robusta* were all examples of good culture.

Mr. Wm. Carshaw, The Manor House, Thrumpton, Derby, sent a few blooms of his dark crimson Clove Carnation Mrs. Wm. Carshaw. Mr. E. A. Hambro, Hayes Place Gardens, Hayes, Kent, sent a new variety of *Primula viscosa*, named *Spring Beauty*, from a cross of *P. v.* and *Auricula C. J. Perry*. The result is a fine flower of deep maroon. The Earl of Latham, Latham House, Ormskirk, sent some fine bracts of *Euphorbia (Poinsettia) pulcherrima* to illustrate the practice of blooming from cut-backs. The Botanic Gardens, Cambridge, sent *Bignonia Tweedei* and *Cantua dependens*. An interesting freak in *Hyacinths* was noticed as a bulb in a glass, bearing six blooms. The Marquis of Londonderry, K.G., Wynyard Park, Stockton-on-Tees, sent *Hæmanthus Diadem*.

Narcissus Committee.

Messrs. T. S. Ware, Limited, Hale Farm Nurseries, Feltham, staged a very nice lot of *Narcissi*, having *Golden Spur*, *Sir Watkin*, *Sir Henry Irving*, *Maximus*; and *Begonia Marguerita* were of good form and colour. Also *N. albicans*, *Queen Bess*, and *C. J. Backhouse* were pleasing.

Mr. H. J. Jones, Ryecroft, Lewisham, had a large and very varied collection of bulbous flowers amongst the *Narcissi*. *Sir Watkin*, *Queen Bess*, *bicolor Victoria*, *Emperor*, *Barri conspicuus*, *Princess* very large and very good. *Tulips David Tennier*, *Wouverianum*, *Thomas Moore*, *Queen of Netherlands*, *Proserpine*, and *Grace Darling* were splendid flowers. The collection also contained fine specimens of *Hyacinths* and many forms of *Narcissi*.

Miss T. W. Curry, from Lismore, Ireland, again staged a very pleasing collection of *Narcissi* in great variety. *N. Leedsi*, *Maggie May*, and *N. Incomp. Beauty*, *Stella superba*, *Autocrat*, *Figaro* were very pretty, and *N. Lady Margaret Boscawen*, *Michael Foster*, and *White Queen* were in fine form. About 120 vases in all, and generally very varied.

Sir Francis Drake, a seedling *Narcissus* sent by P. J. Kendall, Esq., Newton Poppleford, near Otley, was a very fine flower, over 5in across, of good colour, the corona slightly deeper in colour. *Kin Alfred* and *James Woodhouse* were also staged.

Mr. W. B. Hartland, of Patrick Street, Cork, sent a few fine *Narcissi*, as *Incomp. fl.pl. Erini* and *Glory of Leiden*, &c.

Messrs. B. S. Williams and Son, Upper Holloway, N., had a charming collection of *Narcissi*, all of which were fine examples of good culture. *N. Emperor*, *Sir Watkin*, *bicolor Victoria*, *Duke of Bedford*, exceedingly fine, and *N. Incomp. Beauty* and *Gwyther* and *N. Barri conspicuus* very nice. *Princess Ida*, very pale primrose, is very pretty, and the whole stand was one of vast interest in the hall.

Messrs. Barr and Sons, Covent Garden, had a large stand of *Narcissi* very representative of all sections, with *Anemones* again at the base. *Duchess of Westminster*, Mrs. Walter Ware, *Stella superba*, *Barri conspicuus*, *Santa Maria*, and *Glory of Leiden*, also *Weardale Perfection*, *Peter Barr*, and *Lucifer* were all grand. The same firm also staged *Iris Susiana*, a mottled large brown flower, and choice. An exhibit of *Tulips*, among which were *Prince of Austria*, *Cottage Maid*, *Kaulfmanniana*, *Murillo*, were very strong and of good form and colour. They also staged

a small collection of hardy plants, amongst which *Dodecatheon Hendersoni*, *Aubrietia*, *Saxifragas* in variety, &c., were noticed.

The Rev. G. H. Engleheart, Appleshaw, Andover, staged a few vases of *Narcissi*; and Miss Willmott, Warley Place, Essex, staged a new *Iris*, *Bucharica* (Foster), white and yellow on the lip.

Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq. (in the chair); with Messrs. Jos. Cheal, Henry Esling, Alex. Dean, H. J. Wright, W. Pope, Geo. Kelf, J. Jaques, C. G. Nix, James Sweet, F. Q. Lane, J. Willard, Geo. Wythes, James H. Veitch, H. Somers Rivers, and H. Balderson.

This committee had very little to consider.

A. Hargreaves Brown, Esq., M.P. (gardener, Mr. B. Greaves), Broom Hall, Dorking, staged a delightful boxful of *Royal Sovereign Strawberries*, for which a *Silver Banksian Medal* was awarded.

Mr. T. H. Beach, The Garden, Hazells, Gravesend, exhibited a new weed extractor of some merit, and of which we will have more to say again.

Mr. H. Rowe, Barbourne Nurseries, Worcester, sent up a dish of a new Apple, *Edward VII.*, like *Newton Pippin* and very fine.

Medals.

FLORAL COMMITTEE.—Silver-gilt Flora to St. George's Nursery Co., for *Cyclamens*; silver Floras to Messrs. Wm. Paul & Son, Waltham Cross; G. Jackman & Son, Woking; and H. Cannell & Sons, Swanley. Silver Banksians to Wm. Cutbush & Son, Highgate; H. Little, East Twickenham; and Sir Francis Barry, M.P., Windsor. Bronze Flora to Low & Co., Amos Perry, and Wallace & Co.; also bronze Banksians to T. S. Ware, Ltd.; and Paul & Son, Cheshunt.

Certificates and Awards of Merit.

Alpine Auricula Firefly (J. Douglas).—Splendid form, and good size, bright golden eye, and deep rich blackish crimson edge; one of the finest we have seen. Award of Merit.

Alpine Auricula Rosy Morn (J. Douglas).—This is less meritorious than *Firefly*, both in its form and colour; the centre is yellow with a blackish-purple zone and bronzy-red outer band. Award of Merit.

Auricula Mrs. Henwood (J. Douglas).—This green-edged show variety, with a white centre, has irregular black zone, and broad deep green edge. The flower is large and well formed. Award of Merit.

Hippeastrum Nysa (J. Veitch & Sons, Ltd.).—A variety remarkable for the great depth of its rich dark crimson (like a dark Clove Carnation), with darker veins. Award of Merit.

Hippeastrum Sylvannus (J. Veitch & Sons, Ltd.).—A flower with plenty of substance, somewhat netted toward the outer parts of the segments with white, on a bright, scarlet-erimson body colour. Award of Merit.

Iris Bucharica (Miss Willmott).—Miss Willmott has evidently made a rich discovery of species within a recent date, but of the number she has shown we think this is the finest. The fleshy stems, and linear, shining foliage is luxuriant below the terminal solitary flowers. Two colours exist—(1) deep sulphur yellow on the recurving tip of the sepals; and (2) ivory white on the petaloid stigmas. The "standards" are reduced to mere flimsy bracts. First Class Certificate.

Lælia flavina (J. Veitch & Son, Ltd.).—A most delightful Tea-coloured form, with broad petals and narrow sepals. The lip is fluted and protruding. Award of Merit.

Lælio-Cattleya Dora (Charlesworth & Co.).—A bigener between *Cattleya Schröderæ* × *L.-C. Phæbe*, delicate in form, with wavy edges. The colour is very sweet and quite distinct—salmon overlaid with pink. The lip is tipped with purple.

Masdevallia Circe (J. Veitch & Sons, Ltd.).—A very distinct species, large in form, and chestnut brown in colour. Award of Merit.

Narcissus Peter Barr (Barr & Sons).—This most superb and handsome trumpet *Narciss*, with palest sulphury trumpet and ivory white perianth, was on this occasion accorded a First Class Certificate. It is a distinct and noble flower.

Narcissus Sir Francis Drake (P. J. Kendall, Esq.).—A large and distinct seedling trumpet *Daffodil*, with a long open trumpet, much crinkled and turned at the apex; this is rich deep yellow. The perianth segments are wavy, broad, and of a lighter yellow. Award of Merit. P. J. Kendall, Esq., Newton Poppleford, Otley.

Primula viscosa × "*Spring Beauty*" (E. H. Hambro, Esq.).—A rich violet purple form, with conspicuous white eye. It is very distinct and handsome, coming as a cross from *P. viscosa* × *Auricula C. J. Perry*. The foliage and growth is robust and plentiful. Award of Merit. E. A. Hambro, Esq. (gardener, Mr. Wm. Beale, Hayes Place Gardens, Hayes, Kent).

Zygopetalum pierensoides (?) *Cecil Rhodes* (H. T. Pitt, Esq.).—A large and strikingly beautiful variety, with bright lavender-violet lip, and black and green sepals and petals. Award of Merit. H. T. Pitt, Esq., Stamford Hill.

Brighton and Sussex Horticultural, April 8th.

A delightful spring show took place in the Corn Exchange, and under the Dome of the Pavilion on the above date all the leading spring flowers which can be had in bloom at this season of the year were well represented. The entries were much larger than usual, and the quality was, in not a few

cases, very high. The weather, though dull, was fine, and there was a large company, who appeared to greatly enjoy the sight.

Groups of plants, arranged round the sides of the Exchange, were a fine feature, and they were in the form of a letter B lying upon its back. Mr. George Miles, nurseryman, Hove, was awarded the first prize, having a finished, tasteful arrangement of Palms, Ferns, Azaleas, Daffodils, &c. Mr. H. Head, The Drive Nursery, Hove, was a good second. Mr. Miles was also first with a table of flowering and foliaged plants, using much the same materials as in his group. The second prize was withheld. Collections of Orchids, arranged on a small table, Ferns being used as a background, were highly effective. Mr. H. Garnett, gardener to R. G. Fletcher, Esq., Preston, was first, with a varied assortment of fine Orchids. Mr. J. Harper, gardener to E. A. Tucker, Esq., Brighton, was second. A very pretty feature was the mantelpiece, with the hearth arranged for effect, the mantelpieces being placed against the walls of the hall, where they were seen to the best advantage. This class afforded useful object-lessons in decoration. Mr. Geo. Miles was again first with some charming work. Mr. W. E. Anderson, gardener to B. Parish, Esq., Brighton, was second; and Mr. J. Harper third.

Hyacinths were shown in several classes. The principal class was for twelve specimens, Mr. G. F. Bunney, Lewes Road, Brighton, taking the first prize with well grown and developed spikes of such leading varieties as Sir W. Mansfield, King of the Blues, Ida, L'Innocence, Matchless (single blue), Cavaignac, &c. Mr. W. E. Anderson was second. There was a class also for six Hyacinths, in which Mr. W. Adams, gardener to S. C. Whiting, Esq., was first with some good spikes. Messrs. Tilley Bros., seed merchants, Brighton, offered special prizes for six pots of Hyacinths, and the same of Tulips. In both cases a good competition resulted. Single Tulips were also good. There was a class for twelve pots, five bulbs, in which Mr. W. E. Anderson was first. He had good examples of such leading sorts as Prince of Austria, Joost Van Vondel and its white variety, Duchesse de Parma, Keizers Kroon, Vermilion Brilliant, &c. Mr. J. Harper was a good second. In the class for six pots Mr. F. Rapley, gardener to Mrs. Visick, Brighton, was first, and there was a good competition. The amateurs also had a class, also for four pots.

Such things as Lily of the Valley, fragrant Freesias, Mignonette, Violets (represented by the double varieties), double white Primulas (which had been very good, though now past their best), Marguerites, six capital plants of Chrysanthemum frutescens, came from Mr. J. Miles, and Stocks were all in generally creditable character. There were also Polyanthus and Primroses in pots, also Primula verticillata and Alpine Auriculas. Six plants of the latter, a fine fragrant yellow variety named Yellow Gem, shown by Messrs. W. Miles and Co., were much admired. Hydrangeas were very good, and there were neat table plants. One interesting class was for twelve pots of Daffodils, the Polyanthus type excluded. Mr. J. Harper was first with well grown and flowered standard varieties, and Mr. G. F. Bunney second. Mr. J. Harper was also first with twelve pots of Polyanthus Narcissi, which included well developed examples of Mont Cenis, Gloriosa, Jaune Supreme, Bazelman major, &c. Mr. T. Wells, an amateur, was second.

With twelve Cyclamen persicum, Mr. C. Murrell, gardener to Colonel Rogers, Burgess Hill, who showed such fine plants at a recent meeting of the R.H.S., took the first prize with excellently grown medium sized examples, and he had, in addition, some very large specimens, to which a silver medal was awarded. Cinerarias were very good, especially the twelve plants shown by Mr. J. Pressland, gardener to H. W. Smithers, Esq., Brighton, the flowers, medium sized, of fine form, recalling what was grown for exhibition thirty years ago. Other exhibitors had the larger, loose, dwarf type of the present day. Genistas were in the form of finely grown and flowered bushes. Messrs. W. Miles and Co. took the first prize, and Mr. H. Head the second. Messrs. W. Miles and Co. were also first with Spiræas (Astilbe), having well grown and flowered specimens. Dielytras and Deutzias were in the form of well grown specimens; and there was an excellent half-dozen Amaryllis from Mr. Towle, gardener to F. Barchard, Esq. Some very nice dwarf specimens of Azaleas gained the first prize for Mr. Rapley, and good bushes of A. mollis were also shown. Richardias were very fine indeed, carrying splendidly developed trumpets. The best six came from Mr. W. E. Anderson, and Mr. J. Harper was a close second. Lilium Harrisii were also staged in sixes.

In the way of cut flowers, Mr. J. Harper was first with twelve bunches of Narcissus, such sorts as Emperor, Empress, Sir Watkin, C. J. Backhouse, &c., being in good character. Mr. Towle was a good second. Mr. H. Garnett had the best box of cut flowers, having Eucharis amazonica, and the remainder good Orchids. Mr. W. E. Anderson was second. Mr. Anderson was the only exhibitor of twelve Roses. Some arrangements of cut flowers suitable for the centre of a dinner-table, Miss Maggie Baldock took the first prize with excellent work. Mr. W. Rapley was second.

The class for six pots of Strawberries with ripe fruit brought one exhibit from Mr. R. F. Golding, gardener to W. Voules, Esq., Brighton, carrying excellent examples of Royal Sovereign. Mrs. C. Peak, Southdown Nurseries, Shoreham, had the best dish, showing the same variety. There were several classes for gentlemen's gardeners and amateurs, which were well filled on the whole.

In the way of miscellaneous exhibits, Messrs. W. Balchin and Sons, had a superb group of plants, flowering and foliage, from their Hassocks Nurseries, chief among them the lilac-coloured Tetratheca ericoides, admirably bloomed. The Silver Gilt Medal of the Society was awarded Messrs. Barr and Son, King Street, Covent Garden, who had a large and interesting collection of Daffodils. Mr. Murrell had splendid Cyclamen persicum, and Mr. G. W. Piper, Uckfield, beautiful Roses, such as Sunrise, Liberty, Bridesmaid, Comtesse de Nadaillac, and others. To each of these a silver medal was awarded. Messrs. J. Cheal and Sons, Crawley, had a collection of well preserved Apples, with plants and flowers.

Scottish Horticultural.

The monthly meeting of this Association was held in No. 5, St. Andrew's Square, on Tuesday evening, the 1st inst., Mr. Comfort, president, in the chair. There was a very large attendance of members. A number of new members were elected, and over a dozen gentlemen were nominated for election. A paper on the "Root Management of Hardy Fruits," by Mr. M. Temple, the well-known able gardener at Carron Park, Falkirk, was read by Mr. Loney, secretary, as the state of Mr. Temple's health prevented his presence. This paper was a continuation of a paper on the same subject by Mr. Temple which was read last session to the members. The present paper detailed Mr. Temple's experiences with Apricots, Plums, Cherries, and Peaches, depicting very clearly and instructively the causes of failures by wrong treatment of the roots, and the vigorous efforts often needed to bring the plants back to health and bearing. The paper was most instructive and interesting. The discussion was spirited, and very general, many most interesting points in root-pruning were evolved—the consensus of opinion being that the roots should be kept near the surface, and that manuring should not be rank. On the motion of Mr. Mackenzie a most hearty vote of thanks was awarded to Mr. Temple. A number of excellent exhibits were on the table, which presented a very attractive appearance. A collection of Apples from Mr. Whyttock, of Dalkith Palace Gardens, which were most meritorious. There were thirty-six varieties, and the specimens were of fine size and colour, and remarkably sound in condition for this late period. The most prominent were Scarlet Pearmain, Aitken's Seedling, Flanders Pippin, Sturmer Pippin, Alfriston, Wellington, Mère de Ménage, Red Bennett, Yorkshire Greening, Dutch Mignonne, Beauty of Stoke, &c. A special cultural certificate was awarded to Mr. Whyttock. A beautiful specimen of Cœlogyne cristata, covered with beautifully developed blooms, was shown by Mr. Henderson, Monkswood; a cultural certificate was awarded. A fine bunch of Countess of Haddington Rhododendron was sent by Mr. Johnston, gardener, Hay Lodge, Trinity, Some double spathes of Callas were shown by Mr. Mackie, Glenburn. A bunch of Pittosporum eugenioides, with bloom, was sent by Mr. Whyttock, and was very interesting. The usual votes of thanks brought a most successful meeting to a close.

Young Gardeners' Domain.

Lantana Drap d'Or.

This charming bedding plant is easily grown, and forms a pleasing contrast to the Begonias and much-beloved and indispensable bedding Pelargoniums. The plants, having been rested through the last four months or so, should now be brought out and placed on a shelf or some stage near the glass in a temperature of 55deg F., being syringed twice daily. Supply them with water as required, and, so soon as possible, cuttings may be taken and inserted in pans or 6in pots. Use a sandy compost, and place the cuttings in a propagating pit. When they are rooted, place them on a shelf for a week or two, then pot into large 60's, using a compost of half loam, a quarter leaf soil, the other quarter being sand and spent Mushroom bed material in equal parts. When they are rooted into this, pinch the tops out, also all flowers as they appear: thence remove to a warm frame, and admit air freely on all possible occasions. Continue this treatment until the middle of May, then harden off gradually until required for bedding out. Choose a sunny position, sheltered from rough winds, as the flowers will not stand much of the latter. The soil should be a medium one, with a fair amount of manure dug in previously to planting. When frost reappears, the plants must be taken up and placed in boxes or pots, and put to rest under a greenhouse stage to dry off gradually. While working under Mr. Bishop at Hill Crest Gardens, Market Harborough, we planted two beds of this Lantana, and these looked like a mass of gold all the summer. All who saw them had nothing but praise and admiration for them. That this instance will show more clearly the beauty and usefulness of this plant, and obtain for it a greater popularity, is the earnest desire of—CALYPSO.

Outdoor Tomatoes as Bush Plants.

This is a form of growing Tomatoes which is seldom advocated by horticultural writers at the present time, but which might often be practised with advantage, as one good bush plant with several stems will produce as much fruit as several plants trained to one stem, if well attended to as regards stopping and thinning of the shoots; plants with two or more stems growing as fast as single stem plants, if allowed sufficient room to develop both at tops and roots. We grew plants of Early Ruby last year as bushes, some of which ripened upwards of 100 fruits, weighing quite 20lb per plant. A great advantage to be gained by growing them so, is the saving of space when the plants are under glass, at a time when every inch is valuable in the majority of gardens, as a plant which is ultimately to be grown as a bush does not require any more space than one that is destined to form a cordon; consequently, fewer plants are required, or the plants may be grown on in larger pots previous to being planted out, if saving of space is no object. When planted out, a distance of 3ft apart each way is none too much, if the ground is in good condition.—R. W. DEAN, Wainsford, Lymington.

A Few Ornamental Trees.

The following short list of hardy deciduous trees are some which are not very often met with, but which deserve to be more frequently planted than they are, if only for the sake of variety, independent of the beauty they possess. *Alnus glandulosus* (Tree of Heaven) is a very quick growing tree—especially when young—and forms a bold, handsome specimen. There is a very fine example of it in the gardens at Apperley Court, Tewkesbury, the residence of Algernon Strickland, Esq., which is upwards of a century old. The *Alnus* may also be grown under the system of cutting down to the ground every year, when it produces leaves 5ft to 6ft long, which present quite a tropical appearance. It is a native of China.

Ginkgo biloba, also known as *Salisburia adiantifolia*, Maiden-hair Tree, whose leaves resemble the segments of a frond of Maidenhair Fern, presents an unique appearance amongst hardy deciduous trees, a well developed specimen forming an object of great beauty. It is also a native of China, and grows to a height of 60ft to 80ft.

Cercis siliquastrum, Judas Tree, does not attain such a height as the preceding ones, but has a more spreading habit, 20ft or 30ft being its usual height. It flowers very freely as the trees advance in age, the bright purple flowers issuing in clusters direct from the trunk and branches before the leaves appear, giving it a very singular interesting appearance. The flowers are considered to resemble drops of blood protruding from the bare stems, from which circumstance it derives the name of Judas Tree.—R. W. DEAN, Wainsford, Hants.

Observers' Notes.

Under this heading there are many short interesting notes our readers might send.

A pair of robins are building their nest in a *Heliotrope* plant in a conservatory at Barnstaple. The birds make their way to and from the outer world by means of an open ventilator in the roof.

* * *

I am pleased to report having heard the wryneck on the morning of the 5th inst. and again this morning, the 7th. For over fifty years I have looked on the voice of this little migratory bird in the early days of April as one of the glad heralds of spring.—ALICE BAKER.

Curious Behaviour of a Flight of Wagtails.

I send you an extract from a letter received by me the other day from a planter friend at Balur, Mysore, which I think will be of interest to some of your readers. The wagtail, which is a migratory bird, as everybody knows, comes down south with, or just before, snipe, and a flight of them must have been passing over Baur when the rain stopped them. "A very funny thing occurred here the other night. I was reading in the sitting-room at about 9 p.m., and it was raining heavily outside, when a water wagtail flew into the room, and after a little while I found there were four of them. I did not take much notice of them until one flew on to the lamp and put it out, and then I thought it was high time to go to bed. So I went into my bedroom, and to my surprise found it was full of these birds. They had come in evidently to take shelter from the rain. They seemed quite tame, and several of them sat on my shoulder and on my hands. However, I did not want them flying about my room all night, so I caught them one by one and set them free in the drawing-room. In the morning two were found dead, evidently killed by the dogs, but the rest had all gone."—"Indian Forester," October 12, 1901.)

**Fruit Forcing.**

YOUNG VINES.—Last year's planted canes will now be breaking naturally, and when the growths are fairly on the move a little fire heat will prove beneficial, especially on cold days. When the growths are about half an inch long, gradually remove those not required, leaving the shoots for bearing or forming the side growths or spurs not closer than 15in to 18in on each side of the cane. If the Vines are cropped let it be light. One, or at most two bunches, is as much as Vines in the first year of fruiting should be allowed to bear, but supernumeraries may carry as much fruit as there is a prospect of their bringing to maturity.—ST. ALBANS.

PEACHES AND NECTARINES: EARLIEST FORCED HOUSE.—Discontinue syringing when the fruit commences to ripen, or it will cause the skin to crack and impart an unpleasant flavour. It is very important to have the trees quite free from insects by the time the syringing ceases, as it must when the fruit commences ripening. If there be the least sign of red spider, apply an insecticide, and follow shortly afterwards with a forcible syringing, repeating the process if necessary, so as to thoroughly free the trees from the pest. It is only the very early varieties that will be ripening; the others must be well syringed, and have abundant supplies of water and surface mulchings of short manure or rich material.

LATE HOUSES.—A splendid display of blossom and a grand smell of nectar characterises the trees in this department. There ought not to be anything neglected that is likely to insure the perfect fertilisation of the flowers, as without it fruit cannot attain perfection. Many of the late Peaches have large blossoms, and these often have the anthers deficient of pollen. Attend, therefore, to fertilising the flowers, not trusting to bees, which, however, effect the process very effectually, but they seem to be so hindered by the glass that they fight shy of fruit houses. It is not the difficulty of getting in, but of egress from the structure that bothers the bees, for when loaded they are troubled about nothing but carrying the nectar and pollen to their homes, and many succumb to the frantic endeavour made to take a direct flight. Secure a temperature of 50deg by day, and ventilate freely, allowing an advance to 65deg from sun heat. Leave a little air on constantly. Where there is a superabundance of blossom, remove all on the under side or back of the shoots, and, though this is best done before the flowers expand, it will materially aid the setting and swelling of the young fruit.—ST. ALBANS.

The Kitchen Garden.

BROCCOLI.—Seed should be sown freely now of some of the best main crop varieties, which will come into use in winter and early spring. Among the best varieties may be included Veitch's Self-Protecting, Snow's Winter White, Leamington, and Late Queen. These will cover a long season, commencing in autumn and ending in May or June, hence it may be desirable to include a few other varieties which might come in intermediately. It is worth while trying a few for this purpose, as a continued supply of good heads of this vegetable cannot fail to be appreciated, especially if they are procurable at a time when other vegetables are scarce. Sutton's Pearl, Vanguard, and Winter Mammoth are to be recommended. The white and purple sprouting Broccoli prove very useful, and should be grown in quantity to meet a fair demand in the early part of spring. The seeds are best sown in drills, and ought to be protected from birds by netting. By taking the latter precaution the seed need not be sown so thickly, as it is highly desirable not to crowd the seedlings, though if sown rather more thickly than is needed the pricking out will render them strong by increasing the root action and affording ample room for the development of the plants in the early stages. Drills for the seed may be a foot apart, and half an inch deep.

CAULIFLOWERS.—This is also a good season to sow Walcheren and Autumn Giant Cauliflower. Plants from this sowing will succeed those which have been raised in a little heat, and are now ready for planting out finally in well manured soil. If, however, they are not yet strong enough, give them a position in a cold frame, and as they grow gradually harden to outdoors. Plant 15in or 18in apart in rows 2ft asunder.

PLANTING PEAS.—Peas which have been raised in boxes, turves, or pots, having undergone a good course of hardening treatment, ought now to be planted out finally. They must be planted in soil that has been liberally treated in the matter of

preparation, as free growth is desirable after planting. Any serious check will result in stunted plants and the appearance of mildew, with the consequent failure to properly flower. To avoid this, have a rich moist root run, give surface cultivation, and mulch the rows in summer. Immediately after planting out a row of Peas, draw some earth on each side the rows, and at once place the sticks to them, both as a support and protection against cold winds.

SEAKALE.—In order to forward the growth of Seakale outdoors cover the crowns with ashes, or pots may be employed having a moveable top or lid. The thongs or roots that were preserved from the forcing crowns in winter are now commencing growth, and should be planted on a previously prepared piece of ground. The roots may be placed a foot apart in rows 2ft asunder, or if preferred plant in a triangular clump, each clump being at least 2ft apart. Where a stock of Seakale must be raised from seed, the present is a suitable time to sow the seed. This may be sown in rows a foot apart, ultimately taking out every other row and planting elsewhere. Thin out the seedlings well, 12in apart not being too much.

PLANTING POTATOES.—No opportunity ought to be lost in order to plant out the stock of Potatoes as soon as possible now. The whole of the late varieties may be completed planting when the soil is friable. Early Potatoes, furnished with strong sprouts, which they have been encouraged to produce by standing them on end in boxes, should be planted as favourable times permit. Draw drills 6in deep, placing the sets in them at a foot apart, the drills being 2ft asunder. Cover carefully with a light mixture over the sprouts, so as to protect them well from any sharp frosts which may occur, and from time to time draw dry soil around the tips as they protrude until danger from frost is past.

SOWING PARSLEY.—A plentiful supply of Parsley should be sown in drills or broadcast. It is often very convenient to have a long row sown by the side of a walk.—**EAST KENT.**

Publications Received.

Royal Gardeners' Orphan Fund. Rules and regulations, fourteenth annual report, and list of subscribers. * * "Gartenflora," April, contains a coloured plate of *Allamanda cathartica*. * * "Le Moniteur d'Horticulture," March 10, contains a coloured plate of *Schizanthus wisetonensis*.

Trade Catalogues Received.

W. Baxter, The Nurseries, Woking.—*Select Dahlias*.
Harlan P. Kelsey, Tremont Buildings, Boston, Mass., U.S.A.—*Hardy American Plants*.
F. R. Pierson Company, Importers, Growers, &c., Tarrytown-on-Hudson, New York.—*Seeds, Bulbs, and Plants*.

Trade Notes.

Messrs. Ware, Limited, Feltham, Middlesex, have issued their plant catalogue, which comprises lists of new and rare hardy perennial and Alpine plants, flowering shrubs, hardy climbers, hardy Orchids, Delphiniums, Carnations, Phloxes, Aquatics, Bamboos, new Dahlias, Begonias, Cannas, and bedding plants.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1902. March and April.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
Sunday ... 30	S.W.	deg. 40.9	deg. 38.9	deg. 51.6	deg. 33.3	Ins. 0.05	deg. 44.7	deg. 45.2	deg. 45.2	deg. 25.1
Monday ... 31	S.W.	50.8	48.2	60.5	40.5	0.01	44.9	45.0	45.2	40.0
Tuesday ... 1	S.W.	49.9	46.4	57.3	48.4	—	47.5	45.7	45.3	43.5
Wed'sday 2	N.E.	45.9	40.1	50.7	32.3	—	46.0	46.2	45.5	22.5
Thursday 3	S.W.	43.1	39.3	53.3	34.9	0.06	45.4	46.2	45.7	30.3
Friday ... 4	W.S.W.	45.7	40.1	52.7	31.9	0.04	45.1	46.0	45.8	27.6
Saturday 5	S.W.	45.4	44.4	52.4	39.5	0.06	45.3	46.0	45.8	34.3
MEANS ...		46.0	42.5	54.1	37.7	Total. 0.22	45.6	45.8	45.5	31.9

A week of very variable weather; dull days, cold winds, and frequent showers.



* * * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

COS LETTUCE IN THE MARKETS (J.P.).—The Cos Lettuce handled by you in the market would no doubt have come from greenhouse culture. Even Cabbages are grown under long span-roofed houses in some of the London market gardens. Frame culture is more prevalent, however.

VINERY AS A GREENHOUSE (A Constant Reader).—Your house, having no sun in the afternoon, will answer better as a greenhouse than as a vinery, and will be useful for growing plants for the conservatory. It will need but little in the way of alteration. The Vines will have to be taken out and stages provided. We suppose it is heated sufficiently to exclude frost.

INSECT TO NAME: IS IT DETRIMENTAL OR HARMLESS? (H. M. W.).—The insect is a mite of the section Trombididae (harvest mites), according to Koch and Andrew Murray, though some regard this as an error, and refer it to Tetranychidae (spinning mites). It is named *Bryobia praetiosa* or *B. speciosa*, for there is no difference in the two only in name. It is commonly known as Ivy red spider, and often swarms on Ivy in gardens, especially that against walls, and seems to roam about in the spring and early summer, often being found on many plants and in many places at that time. In 1893 it was found seriously affecting Gooseberry bushes, causing considerable loss in many localities to growers. It chiefly, however, infests Ivy, which is sometimes greatly disfigured by its attacks on the leaves, as it sucks their juices and stunts their growth. It may be destroyed by spraying with petroleum softsoap, 2oz to a gallon of water, or carbolic soap, 1oz to a gallon of water. The under side of the leaves as well as upper must be wetted with the solution, either by spraying or syringing upwards.

CLIMBING PLANTS (A Climber).—We surmise that the cement walls of the house you wish to cover are not in any way wired or have a latticed framework against them. Were there either wires or such a frame as we refer to you could train up a large number of suitable ornamental climbers, such as Clematis in variety, Roses, Honeysuckle, Wistarias, Forsythias, Cydonias, Smilax rotundifolia, Jasminum, Halesia tetraptera, Periploca græca, Magnolias, Indigofera decora, Vines, and many other plants besides. Without any support whatever we know of only Ampelopsis and Ivies that will climb and cling firmly by natural means. Choosing the small leaved forms of each, these are very beautiful and useful plants. Ampelopsis (or Vitis, to be pedantically accurate) inconstans, otherwise named *A. tricuspidata* and *A. Veitchi*, is very generally used, as also the Virginian Creeper, *Vitis (Ampelopsis) quinquefolia*, which has a number of varieties that differ slightly. Of Ivies, the following might be chosen: *Hedera Helix chrysocarpa*, *cuspidata minor*, *deltoidea*, *gracilis*, *marginata aurea*, *Maderiensis variegata*, and others whose names are, however, more or less confused in catalogues.

VENTILATING CUCUMBER HOUSES (F., Wiltshire).—In dull, mild weather we do not advise Cucumber houses to be kept close and temperature down to 75deg by reducing fire heat, but have found it better to keep a fair amount of fire going and maintain the temperature at 70deg to 75deg, giving a little air at 75deg, if that point is reached early in the forenoon, and then only a moderate amount, without giving rise to an inrush of cold air or in any degree lowering the temperature. This will allow of a change of air, and the plants will be benefited in constitutional vigour, not being in any way prejudiced in the swelling of the fruit or in steady progressive growth of plant. The houses should be closed early in the afternoon when air is admitted early in the day, as after a change of atmosphere the plants profit considerably by a moist atmosphere and relatively high temperature; but it is not desirable to maintain a temperature of more than 70deg to 75deg by day in dull, mild weather, as the evaporation is not great, and a higher temperature induces a relatively attenuated growth. Unquestionably ventilating rather more than is usual under the present system of growing Cucumbers for market is one of the best means of avoiding the diseases to which Cucumbers are liable, especially those of a fungoid nature, especially when a little sulphur is kept on the hot-water pipes.

SETTING OUT CROQUET GROUND (John).—Without a diagram it would be useless telling how to fix the wires in the croquet ground. You should obtain an illustrated book of rules, generally supplied with the set, which varies with the different sets, or games; and the players, or captain, should provide the setter-out with the particulars of requirements. Why address the Publisher instead of the Editor?

WHITISH PATCHES ON GOLD AND BRONZE PELARGONIUM LEAVES (R. C. B.).—The spots are probably caused by the sun acting powerfully upon the plants whilst the parts of the leaves affected have moisture on them, as the semblance accords with scorching. The parts do not contain the mycelium of any fungus—at least, we did not find any parasitic organism, hence regard the affection as ordinary Pelargonium spot, which may be avoided by judicious and early ventilation, to as to dissipate the moisture settling on the leaves—it may be imperceptibly—before the sun acts powerfully on them.

LEAVES OF PEACH TREE SHRIVELLED UP (Gardener).—The leaves are scorched, as if from an overdose of tobacco smoke, or, as sometimes occurs, from the house being kept close and air not admitted until the sun has raised the temperature to a high degree, moisture being condensed on the foliage, and then by admitting air so as to cause a current, and the moisture on the leaves being heated so as to injure the tissue, what is known as scorching is manifested. The growths, however, are very weak and of a long-jointed nature, which render them more susceptible of injury than those of trees in a better state of health, their foliage being stouter in texture, and this may account for two Nectarine trees in the same house not being similarly affected. We should lift the tree as soon as the leaves give indications of falling, and replant in firm soil, which will aid the setting of the fruit and better the condition of the tree generally.

NAMES OF PLANTS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (Subscriber, Thirty Years).—*Forsythia viridissima*. (J. O.).—1, *Cattleya Lawrenceana*; 2, *Oncidium altissimum*; 3, *Epidendrum flava*. (N. P. H.).—We cannot undertake to name varieties of Daffodil with certainty, and would advise you to send them to one or other of the large bulb-supplying-firms. (R. S. Scott).—1, *Spiraea prunifolia* fl.-pl.; 2, *Primula denticulata*; 3, *Acer rubrum*; 4, *Antholyza* sp. (J. W. B.).—Not *Tritonia crocata*, but *Antholyza caffra*.

Note to Readers.—We request those of our readers who may experience any difficulty in obtaining copies of this Journal regularly to be good enough to acquaint us with the fact.

EDITORIAL NOTICE.—Our readers can greatly assist in adding interest to the pages of "The Journal" by their kindly contribution of timely notes and notices, and at the present period of the year there may be photographic examples of well-grown fruit, &c., growing or otherwise, that would be worthy of reproduction. The Editor would be pleased to have such subjects for consideration and probable use. He does not guarantee to pay for prints unless by special agreement.

Covent Garden Market.—April 9th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.		
Apples, cooking, bush.	6	0 to 8	0	Grapes, Alicante, lb. ...	4	0 to 4	6
„ New towns,				„ Colman	4	0	6
case	10	0	12	„ Almeria	0	8	1
Bananas	8	0	12	Oranges, case	10	0	25
Dates, red V., doz. bxs.	5	6	0	Pines, St. Michael's,			
Lemons, Messina, case	12	0	16	each	3	6	5

Average Wholesale Prices.—Vegetables.

	s.	d.	s.	d.		s.	d.	s.	d.		
Artichokes, green, doz.	2	0	to	3	0	Mushrooms, forced, lb.	0	5	to	0	6
„ Jerusalem, sieve	1	6		0	0	Mustard & Cress, pint.	0	2		0	0
Batavia, doz.	2	0		0	0	Parsley, doz. bnchs. ...	2	0		3	0
Beans, French, lb. ...	1	0		1	3	Potatoes, English, cwt.	4	0		5	0
Beet, red, doz.	0	6		0	0	Radishes, doz.	0	9		1	0
Cabbages, tally	6	0		8	0	Seakale	1	0		1	3
Carrots, doz. bnch. ...	2	0		2	6	Shallots, lb.	0	2		0	3
Cauliflowers, doz. ...	2	0		3	0	Spinach, bush.	2	0		3	0
Corn Salad, strike ...	1	0		1	3	Sprue, French, dozen					
Cucumbers doz.	4	0		5	0	bunches	8	0		9	0
Endive, doz.	1	0		1	3	Tomatoes, Canary					
Herbs, bunch	0	2		0	0	consignment	4	0		4	6
Horseradish, bunch ...	1	6		0	0	Turnips, doz. bnch. ...	2	0		3	0
Leeks, bunch	0	1	½	0	2	Watercress, doz.	0	6		0	0
Lettuce, Cabbage, doz.	1	0		1	3						

Average Wholesale Prices.—Plants in Pots.

Most of the undermentioned plants are sold in 48 and 32-sized pots.

	s. d.	s. d.		s. d.	s.
Aralias, doz.	5 0	to 12 0	Foliage plants, var, each	1 0	to 5
Araucaria, doz.	12 0	30 0	Genistas, doz.	6 0	8 0
Aspidistra, doz.	18 0	36 0	Geraniums, dble., doz.	6 0	8 0
Azaleas, white and			Grevilleas, 48's, doz. ...	4 0	5 0
coloured, doz.	24 0	30 0	Lycopodiums, doz. ...	3 0	0 0
Crotons, doz.	18 0	30 0	Marguerite Daisy, doz.	8 0	10 0
Cyclamen, doz.	6 0	9 0	Myrtles, doz.	6 0	9 0
Cinerarias, doz.	4 0	6 0	Palms, in var., doz. ...	15 0	30 6
Cyperus alternifolius			„ specimens	21 0	63 0
doz.	4 0	5 0	Pandanus Veitchi, 48's,		
Dracæna, var., doz. ...	12 0	30 0	doz.	24 0	30 0
„ viridis, doz.	9 0	18 0	Pelargoniums, doz. ...	10 0	15 0
Erica caffra	15 0	18 0	Primulas	3 0	4 0
„ Wilmoreana	9 0	12 0	Shrubs, in pots	4 0	6 0
Ferns, var., doz.	4 0	18 0	Solanums	8 0	10 0
„ small, 100	10 0	16 0	Spiræa japonica, 48's,		
Ficus elastica, doz. ...	9 0	12 0	doz.	6 0	8 0

Average Wholesale Prices.—Cut Flowers

	s. d.	s. d.		s. d.	s. d.	
Arums, doz.	2	0 to 3	0	Lily of the Valley, 12		
Asparagus, Fern, bnch.	1	0	2	bnchs.	6 0 to 12 0	
Azalea mollis, bunch	0	6	0	9	Maidenhair Fern, doz.	
Bouvardia, white,				bnchs.	6 0 0 0	
doz. bunches... ..	6	0	8	0	Marguerites, white,	
„ coloured, doz. bun.	6	0	8	0	doz. bnchs.	2 0 4 0
Camellias, white... ..	1	6	2	0	„ yellow, doz. bnchs.	2 0 0 0
Carnations, 12 blooms	1	3	1	9	Myrtle, English, per	
Cattleyas, doz.	8	0	12	0	bunch	0 6 0 0
Croton foliage, bun. ...	0	9	1	0	Narcissus, Soleil d'Or..	1 0 0 0
Cycas leaves, each' ...	0	9	1	6	„ Poeticus, doz.	1 0 2 0
Cypripediums, doz. ...	2	0	3	0	Odontoglossums	4 0 0 0
Daffodils, single, doz....	1	0	2	0	Orange blossom, bunch	2 0 3 0
„ double „	1	0	0	0	Primula, double white,	
Eucharis, doz.	2	0	3	0	doz. bunches... ..	6 0 8 0
Freesias, doz. bunches	1	0	1	6	Roses, Niphetos, white,	
Gardenias, doz.	2	0	3	0	doz.	1 6 3 0
Geranium, scarlet, doz.					„ pink, doz.	2 0 4 0
bnchs.	4	0	6	0	„ yellow, doz. (Perles)	1 6 3 0
Hyacinth, Roman,					„ Maréchal Niels ...	2 0 4 0
doz. bunches... ..	5	0	6	0	„ Generals... ..	1 0 2 0
Ivy leaves, doz. bun....	1	6	0	0	Smilax, bunch	3 0 4 0
Lilac, French, white,					Tuberoses, gross	0 0 10 0
bunch	4	0	4	6	Tulips, white, single,	
Lilium Harrisi	3	0	0	0	doz. bun.	6 0 0 0
„ lanceifolium alb.	2	0	2	6	„ scarlet, single,	
„ l. rubrum... ..	2	0	2	6	doz. bun.	4 0 0 0
„ longiflorum	3	0	4	0	Violets, single, doz ...	0 9 1 0



Failures in Growing Turnips.

The history of fruit growing during the past three years is a curious one, strikingly marked in several ways. The year 1899 was probably one of the worst, if not the absolute worst, Turnip year of the century. The failure was chiefly owing to excess of rain in May, followed by a long spell of dry weather, which baked the sodden soil. The conditions were diametrically opposite to those under which the Turnip plant thrives best. The result was a general and dismal failure. The year 1900 was as good as 1899 had been bad. A warm, finely cultivated seedbed produced a healthy young plant, which, with rain at favourable periods, grew into a wonderfully fine crop, far exceeding the requirements of the national flocks and herds. The year 1901 was like neither of the two preceding it, although the average results of Turnip growing were not much better than in 1899. There was a fairly good seedbed, and, though it was rather dry, the Turnip once germinated revels in heat and dusty surroundings until it has been singled out. There were also fairly general and sufficient rains in most districts, and there appeared to be no reason why success should not follow.

Contrary to our anticipations stated in these columns, the results were largely unsatisfactory. One great difference we have remarked between 1899 and 1901. Whereas in the

first of these years it was hardly possible to find a field of Turnips much exceeding 50 per cent. of an average one, we have ourselves seen last autumn some of the finest crops possible; in fact, one field of Swedes was the best in a thirty years' experience. The majority were bad; some a complete failure. Then what was the difference in cultivation which could succeed when others failed? We think that many of last year's bad crops were directly traceable to the general failure of 1899. The Swede and white-fleshed Turnip crops of 1899 were so bad that there were practically no sound roots wherewith to grow in 1900 the seed which would be required for sowing in 1901. We last year strongly urged our readers to be careful in purchasing Turnip seed. There was so little new seed of 1900 which came to perfection, and prices were so high, that all the old stocks had to be requisitioned to supply the annual demand. A great deal of this would be blended with new to make the latter go further. But this mixing is a terrible mistake, and one which often has most unfortunate results. There are very few seasons when the Turnip fly does not make itself troublesome, and to cope with its attacks we must have an even and strongly growing plant.

Now, new seed will germinate in two days' less time than old will. The result of a mixture of seed, therefore, is that a serious attack of fly clears off all the plants grown from the new seed before the old seed begins to appear, by which time the fly has greatly increased in numbers and ruins the whole. We would rather ask for good old seed at a lower price and increase the quantity sown than buy so-called new from any but the most trusted firms in the trade. But though we are inclined to blame poor or mixed seed for much of last year's failure, there are other contributing causes. The necessity for close economy in farm expenditure is ever increasing, and the introduction of easier methods of cultivation has encouraged a neglect of that necessary but expensive operation, ploughing. A generation ago a farmer made a regular practice of giving his land five ploughings in the process of preparation for Turnips—two in autumn, two in spring, and one just before drilling the seed. If he did not drill on the flat, ridging and splitting would take the place of the last ploughing. Such a thorough method of cultivation is the best preventive of grub and insect attacks.

Spring tooth cultivators have made farmers too easy about the plough, and some of them would hardly use it at all if there were no such thing as Thistle to deal with. When we speak of ploughing we mean ploughing at least 5in, not merely scratching the surface, which may do well enough for breaking up stubbles, but is of little use if we want the best system of cultivation. We have another fault to find. The most successful root growers seem to be always in the field if the men are not hand-hoeing; there is sure to be a horse-hoe at work, and more often there are both. Turnips are an expensive crop, because they require so much labour, and many farmers fail in growing them because they begrudge the extra labour bill. It is especially necessary to keep the surface constantly stirred during hot dry weather, so as to prevent undue evaporation. Farmers are often under the impression that stirring the surface lets the drought in; but, on the contrary, it has the effect of conserving moisture. Still one thing more. The land intended for roots should have been already so cleaned that little more in that direction remains to be done. If it is ploughed over now and then left quiet until the final ploughing or ridging, whichever it may be, there will be very little loss of the moisture, which is now present in abundant quantity, and there will be a fresh green mould to plant the seed in, and a practical certainty of good germination and a fair start. There should be no trouble in obtaining good new seed this season, as last year's crop was an excellent one, and parcels are cheap.

Work on the Home Farm.

We are still as busy as we can be, but then spring is the farmer's busiest time. Drilling is finished, and we can turn our attention to the finishing of Potato planting. Another ten acres, and that work will be over; but the manure has to be carted from the yard some distance, which will cause a little delay. This is an extra plot, a kind of afterthought. The fact is that seed is almost unsaleable, so we are prompted to plant it. A small breadth of Thousand-headed Kale will have to be sown next week, and the Mangolds must be in this month, so there is plenty of work. So soon as we can spare them, some of the hands must go over the Wheat with the hoe. The crop has now a more promising appearance since the roller was over it. Sunshine and

showers have done wonders, and from being backward it is now in quite an average condition for the time of year.

There is not much grass, but the cattle are looking well on it, and a little cake to help out. The fresh spring bite is always good though scanty. Some Irish heifers which should have been finished on Swedes if the supply had held out are now consuming seed Potatoes, and doing remarkably well. They have Barley straw and 6lb of ordinary cotton cake per head per diem. They will be nice beef by June 1 if kept on this diet, and though butchers are not fond of Potato-fed cattle, we have confidence in meeting a good market. All kinds of cattle are selling very well now, and if the present mild weather continues will be very dear in May. The same may be said to a certain extent about sheep, but the new seeds are not good enough to keep them dear for long. We should prefer to speculate in cattle. The ewes have not all lambed, and those still left have turned suddenly lame. They are very fresh in condition, and suspect the shepherd of giving them too much cake. They will have a dose of sulphur, having had none lately, and as soon as they have lambed their feet must be attended to. How often do we see animals thrown amiss by overfeeding. Eggs are very cheap, eighteen for 1s. in the local market. Our hens average $4\frac{1}{2}$ eggs per week. We rather think they should average five early in April.

Australian Coffee Cultivation.

Among the future industrial possibilities in New South Wales is that of Coffee cultivation on a remunerative basis. It has already been successfully introduced into Queensland, where it furnishes employment to about a couple of hundred workers. Nearly a quarter of a century ago encouraging experiments were made in the Clarence River district, in the northern portion of the parent State, when, from the very outset, it was demonstrated that Coffee trees would grow and yield good crops of berries. There were Coffee trees growing in Grafton, the beautiful Northern Coast Metropolis, upwards of thirty years ago, which yielded good crops, and at the present time several, over twenty-five years old, healthy and productive, are to be met with. The cultivation and treatment of the trees have (says a recent visitor) a great deal to do with the production of a berry of good quality and flavour. Then in the transformation of the berries into the brown powder-like substance which makes the popular beverage, there are many processes, on the proper execution of which depends the preservation of the essential qualities of the Coffee in a form which readily assimilates with boiling water. The leading experiments in cultivation were made on a river island, having an area of about twenty acres, the Coffee plant being grown with other crops. Last year there were about 580 trees in bearing.

It is estimated that Coffee should be planted 8ft by 8ft, which would give 680 trees to the acre. The average production of berries on each tree is 10lb, from which 2lb of manufactured Coffee is made. This, at 1s. per lb wholesale, would be £68. The principal cost is the picking of the berries, which is put down at £3 per acre. "Pulping" costs £1 10s. for the product of an acre; fermenting, bleaching, and cleaning, £1 16s.; roasting, £3; tinning and labelling, 15s. Total, £13 6s., for the produce of each acre. This leaves a profit of over £50 an acre, not counting cultivation expenses. These, however, are light once the trees have been planted and well grown. The ground must be kept cultivated, and the trees pruned. The work of picking the berries is light, and may be done by boys and girls, one person being able to pick from 100lb to 150lb per day. The next operation is that of "pulping." This is done by means of a small wooden roller, with corrugations on its surface. The object of this operation is to crack the shell, which contains two beans of a bluish white colour.

The machine used for this operation is of the grower's own construction, and with it two boys can treat 2 cwt. per hour. The beans have also to undergo a process of cleaning, in which an "Enterprise" bone mill (costing £1 10s.) is used. They have also to be fermented, dried, and bleached, in the course of which they must be exposed to the sun on stretchers, and brought under shelter at night, and when the weather is showery. These processes cost £1 16s. for the produce of an acre. The roasting process is estimated at about £3 per acre. For grinding, a newly patented American machine (costing £2) is used, which puts through 20lb per hour. The usual addition of Chicory is mixed with the Coffee. Last season's Coffee speedily established a reputation for its quality on the Clarence and Richmond Rivers, and has become a favourite with all who have used it, thus ensuring a ready market for all that can be raised in the future. From this it would appear that those practically acquainted with the work of Coffee cultivation would possess unlimited opportunities of turning their knowledge to profitable account in New South Wales.



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THURSDAY, APRIL 17, 1902.

Flower Show Reforms.



THE rules of horticultural societies in too many cases are like the laws of the Medes and Persians, in the respect that they change not. The flower show this year is but a repetition of the last in almost every particular, and, but for the alteration of the date, the schedule might stand for all time. This kind of thing may be satisfactory enough for the members who grow the produce and win the prizes, but the community that helps to pay the piper—i.e., the general public—is apt to get a little tired of it, and complaints are not uncommon respecting the monotonous presentment that is characteristic of so many country flower shows. Is it not possible to improve matters in some way? I think so. Leaving out the question of other attractions outside the show tent, something might be done to make the annual exhibition of greater educational value to exhibitors and visitors alike, and I venture to offer a few suggestions that may be worthy of consideration.

THE NAMING OF EXHIBITS.—The schedules of some societies contain the excellent rule that all exhibits, so far as possible, shall be correctly named, but the majority, I think, do not. Yet this is an important point if the flower show is to be a true object lesson. Every gardener knows what a difference there is in varieties of flowers, fruit, and vegetables, and how important it is to grow the best. The various classes at the flower shows are collections of varieties, and many people attend with the idea of making selections, but when no names are appended they must remain in ignorance, unless they happen to catch an exhibitor near the table and he is willing to oblige. The long lines of dishes of Potatoes, Peas, Beans, and the rest appear all alike to the ordinary visitor when they are

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nameless, and he takes a general survey from the end of the table, instead of making a closer examination, which in all probability he would if there was a ticket on each dish bearing the name of the variety. The rule would also have a beneficial effect on exhibitors, too, as it would induce them to pay more attention to the question of nomenclature.

JUDGES' RESPONSIBILITIES.—It may appear hard to suggest more work for the judges, who, as a rule, carry out their duties thoroughly and conscientiously; but if it is in the interests of the show, they will not complain. The present system of simply placing the prize cards on the exhibits is often unsatisfactory. Take, for instance, the case of two collections of vegetables of almost equal merit. The judges may have excellent reasons for giving one the preference, but the exhibitor does not know them, and if placed second he is apt to think himself badly treated. To avoid this I would have a published standard of points, and it should be the duty of the judges to place a ticket on each dish, showing the number of points given. The addition of numbers would settle the question of superiority. The doubtful exhibitor and the interested visitor would be able to make comparisons of the points, and the former, by observing where he lost marks, would be given an opportunity of improving himself in the future. By adopting this rule there would be no need to waylay the judge when he is hurrying off to catch his train in order to ascertain why he had given a certain decision, because the figures would fix the responsibility. The point system, with certain modifications, might be carried right through the show, and include single dishes of vegetables and fruit, as well as flowers.

THE DECORATIVE SIDE.—There is a sad want of taste in the way flowers are exhibited at rural shows, and in many cases the wording of the schedule is largely to blame. Last summer my attention was called to a class for a dozen kinds of garden flowers. For the most part they were crowded together on ugly boards, but one exhibitor displayed his flowers in slender glasses, and arranged them with light greenery. For his pains he was disqualified, because the schedule said flowers only, not a word about foliage. Could anything be more absurd? Here was the right aim, viz., the displaying of flowers in a graceful and pleasing manner, simply defeated by the wording of the schedule. This is not a solitary instance. Too often there is no encouragement given for the exhibitor to display any decorative skill, and he tries his best to cram as many flowers as possible into the receptacle he uses. Why should not suitable greenery be used when exhibiting collections of flowers? It takes nothing from the quality or appearance of the latter, and, in order to encourage exhibitors to exercise taste, the artistic arrangement should have something to do with deciding the competition.

What an ugly thing the orthodox show board is for displaying flowers on, and yet how tenaciously the exhibitor sticks to it! I have thought sometimes that a fire would be something of a blessing amongst the articles. Of course, the board is necessary in the case of certain flowers, such as Chrysanthemums, Roses, and Dahlias; but even with these there seems to be a desire to break away from the old order of things, as witness the vase classes at the shows of the National Chrysanthemum and Rose Societies. What I strongly object to, however, is to see half a dozen Pansies, Carnations, Marigolds, Zinnias, or Asters dotted about on the face of a board large enough to accommodate a dozen huge Japanese Chrysanthemum blooms, and the ugliness of such an arrangement is often made greater by the flowers appearing in paper collars. The exhibitor may be loth to give up his board, it is part of his showing stock in trade; but away with it, I say, except in a few instances, and let its place be taken by simple specimen glasses. In short, let all societies encourage decorative art, by wording schedules in the cut flower classes so that exhibitors will display their blooms in a graceful and pleasing manner.

THE CHILDREN'S WILD FLOWERS.—No country flower show would be complete without a class for bunches and baskets of wild flowers open to children; but this class might be made far more educational. In the majority of cases the youngsters scour the woodlands and hedgerows for the flowers, which they bundle together for the show, perhaps without knowing even the common names of the majority of them. I take it that the idea is to encourage the children to show an interest in wild flowers, and, in order that they may do so, the example set by one or two societies should be followed. In these cases prizes are offered for collections

of wild flowers and grasses, and extra prizes are given to the children who give the most correct names to the flowers, &c., in their collections. A youngster will ferret about for a name if he thinks he will be rewarded for his pains, and when the lesson is learnt in this way it is rarely forgotten. For older children a class might be provided with prizes for the botanical as well as the common names of the flowers shown. By following this plan, donors of special prizes and show committees might do something to advance the kind of rural education that has been so sadly neglected in the past.

These are a few suggestions which, if adopted, would add to the interest of rural flower shows. I know of no reason why these worthy institutions should go on year after year on the old lines and without change, and a general discussion on the subject might lead to some useful improvements being adopted.—G. H. H.

Irish Gardeners: An Address.

The following address was delivered early in the present year by Mr. F. W. Burbidge, of Trinity College, Dublin, before the Irish Gardeners' Association and Benevolent Society:—

John Claudius Loudon says, in his masterly "Encyclopædia of Gardening," that "gardening has been the inclination of kings, and the choice of philosophers," and this is true—from Solomon to Edward VII. and Moses to Bacon. From Bacon, to still more modern times, the philosophers, or "scientists," as it is now the fashion to call them, Huxley, Tyndall, and Darwin, have been fond of gardens and of flowers. In speaking to you firstly of employers, I may say that, like other owners of capital and employers of labour, they consist of "all kinds and conditions of men." The bulk of employers may be roughly divided into those that know something of trees, plants, and garden methods; and those who know little, and often care less! As a broad rule, the first class—those who know something of garden craft and of its expenses—make the best employers. They may in some cases be very exacting, but they know that accidents, or unforeseen failures must happen now and then, and they also know that means and appliances must be provided, and that the life of an industrious and conscientious gardener is no easy one. A gardener's life is not all cakes and ale, even where ample means and labour power are provided.

Every gardener naturally wants what is called "a good situation," by which a good master or mistress is meant, as well as a good house for himself, in addition to the good and well-stocked garden of his employer. Now let us ask what is a good master? The employers who give the highest salaries or money wages are not always the best masters to serve. There are places where the nominal wages given seem very small, but where other advantages are afforded that really make the situation a most desirable one. The gardener's house may be commodious and healthy, and so situated and surrounded that poultry, or even a pig may be kept. Then a good plot of land may sometimes be given for Potatoes, &c., and in other cases in addition to these benefits, there may be allowed grass for a cow.

Of course such places are only found in country districts, and rarely very near to towns, so that against them may often be set some difficulty in marketing, or in sending children to school. Still with all, I think, the gardener in the country is, broadly speaking, better off than the gardener in, or very near to the town, who has rent and taxes to pay.

The town gardener sometimes earns more, his nominal wages are higher, but he has to live in cramped and unhealthy surroundings, vegetables and milk are scarce, and it generally happens that though he earns more, he spends more, and that is the real crux of the comparison. It is not so much what a gardener receives in money wages as what he is able to save over and above all his reasonable requirements, that makes the pecuniary difference between a good place and a bad one. Of course all gardeners of experience know these things well, but I allude to them to-night for the sake of those young students and journeymen, whom all of us feel proud and glad to see amongst us at these meetings.

As I have said, the ideal employer often—if not always—is a gentleman or lady who knows something of practical gardening themselves. But, alas! there are employers who don't know, and sometimes don't care very much either, for gardeners or gardens. They keep up gardens as they or others do yachts, horses, or houseboats, because it seems the proper thing to do. Amongst this class are some who "don't in the least know what they really do want, but are nevertheless determined to have it." They are uncertain themselves, and so fret and worry their gardeners in many ways. If they visit other people's gardens and see in one fine Grapes, in another good Peaches or wall fruit, in another well-flowered Chrysanthemums, or Eucharis Lilies, or

Cyclamen, they return home and give the gardener a lively time! "Why can't we have these in our garden?" is the usual question, quite regardless of time, place, and means, all important factors in their production.

Now, even a small garden may have some one or two crops, or features of extra merit, but no one garden that I know of—however large and well supported by means and money—can have everything.

The gardeners of noblemen and others who possess several gardens in various parts of the country, know well enough that one garden will produce some crops of fruit, vegetables, or flowers better than another, and that everything depends as much, even if not more, on soil, climate, aspect, shelter, or elevation, as it does upon methods of cultivation. Apart, however, from employers who either know, or don't know, there is often a plurality of employers to be dealt with, each having a different opinion. We are told by the poet that "Birds in their little nests agree," but that does not always apply to the employer, his lady wife or daughters, or the steward, or agent, or even to her ungracious majesty—the cook! It is written that "in a multitude of councillors there is wisdom," but the gardener does not often find it so, and is more inclined to endorse another proverb, which says that "too many cooks spoil the broth." Really and truly, a gardener who gets amongst people at cross purposes requires a good deal of balance and backbone, and a good temper to boot, in order to keep things going peaceably. Some gardeners I know do their duty, under irritating difficulties of this kind, so well that they are really worthy of promotion into the diplomatic service of their country. The fact is that many gardeners show quite as much tact and ability in managing discordant people as they do in the culture of good fruits and flowers. I am a great admirer and sympathiser with the present and the future lady gardeners, but I pity them, when I look round and see what multifarious duties many "mere man" gardeners have to perform. Managing a garden and the things it contains is often a mere fraction of what the so-called gardener has to do. He is often a bailiff, and sees to the home farm and the cattle, or at times acts as forester, and looks after the woods and the game, or has to keep an eye on the river and deter poachers from lifting the salmon. He must be a cattle doctor, and an engineer at times, levelling, draining, taking out quantities and calculating the cost of work. I know at least two most able gardeners near Dublin, who not only manage good gardens and the home farms, but also run the electric light plant, and very often adding with their own hands the necessary connections and minor repairs.

So you see, the lady gardener will have to learn and do a good deal more than mere garden craft, or work "amongst the flowers," if she is to succeed; for a gardener's work is practically unlimited, and he has to manage men and women, and cattle or horses, and machinery, and many other things of importance, as well as the garden alone. A gardener has to learn many things, but of all things he should know something of logic, or the science of clear and accurate thought. I especially recommend to the rising race of young gardeners the study of Professor Jevons' "Primer of Logic," and his companion volume on "Political Economy," both published at a shilling each, and really invaluable to a young man. To these may be added Mr. John Wright's companion volume, "A Primer of Horticulture," which deals with the first principles of gardening in a clear and efficient manner. Every gardener should also learn to draw anything to scale, and to make a sketch of things he really wishes to remember. To be able to show things by means of a rough sketch, or by a working drawn to measurement, is often a great gain.

Then again, every gardener should have some little speciality of his own amongst plants—something different and distinct from that in other gardens. He should take up some plant, or group of plants, something preferably not attempted before, and try to improve it either for food or for that delightful mental food we call beauty. He should select, cross-fertilise, or hybridise it and so do his best to improve it in every possible way. Look what Burpee and Eckford have done for the Sweet Pea, or Mr. Engleheart and others for the Narcissus, and the Laxton's, father and sons, for the culinary Pea and for the Strawberry; or, to come nearer home, at what Mr. Campbell, of St. Anne's, Clontarf (seat of Lord Ardilaun), has done for the Chinese Primrose, the Japanese Anemone, the Persian Cyclamen, or the Carnation. Only want anything and work for it, and in the end you're sure to gain your heart's desire.

There is an old story of a clever old gardener and florist, who, when asked as to how he grew his splendid productions, used to say: "Well! you see in gardening it's like this, everything we does depends upon something else, and we acts according." And that is perfectly true. Sir Michael Foster, M.P. for the London University, is a devoted amateur gardener and hybridist, and his maxim is, "All knowledge is good in science or gardening if rightly applied, but no knowledge is good if wrongly used." "Knowledge is power"—knowledge is a pleasure, and it may be profitable as well if rightly applied in all our horticultural operations.

To young gardeners I would especially say, Don't let long words baffle you; this is an age when old things are often sup-

posed to be dignified by new names. Science is nothing more than accurate knowledge, no matter how acquired. Biology is merely the truth about the life of plants and animals and their action and reaction upon each other, and even the great catchword of our day, Evolution, is nothing more than the way in which things living adapt or modify themselves so as to take advantage of things of the past and fit themselves for their present surroundings or environments. We are all alike to-day in striving for accurate knowledge or the simple truth about things living or dead. In gardening as in farming, science has become like a dynamo—the motive power. No gardener nowadays can afford to proceed on the old rule of thumb or stereotyped methods. He need not be a scientist himself, but he must be able to avail himself of the practical results obtained by the researches of the botanist, the chemist, the meteorologist, the entomologist, and others whose inquiries have a direct bearing on the processes and diseases of plant life. The successful gardener, like the successful doctor, is he who is best able to apply to his own business the discoveries that are being made by the great army of accurate observers who are labouring on his behalf.

In a former part of this paper I have shown that in a pecuniary sense, isolation, or a place in the country, may be beneficial to the gardener, but he gains by isolation in other ways—more especially is he free from the constant dropping in of visitors—often absolute strangers—who want to cross-question him as to some of his products of which they have read "in the papers." Sometimes they ask the name of a plant they saw at so-and-so's, which "grows 2ft in height, with green leaves, and bears bright red flowers." It is astonishing how anxious are the laity amongst gardeners—the amateurs—"they want to know you know," and seem to think that every professional gardener must possess some secret, like the "wishing lamp" or the "magic carpet" of the "Arabian Nights," with which they could work wonders in their gardens if it were only lent to them. But to successful gardening there is no royal road, and the only secrets are close observation and practical experience. I don't believe in chance or what is called "good luck;" there is a reason for all things, even though it may be unknown or invisible to us at the time. And yet there seems to be better fortune for some gardeners than for others. Some gardeners spend a large part of their lifetime "out of place," while others are rarely or never out of a situation. I often pity our good friends, the nurserymen, who play a game like chess with human pawns. I mean those who keep a register of good gardeners, and do their best to get a good square peg into a good square hole. Now and then, by seeming chance, a "round" peg gets into a "square" hole, or vice versa, but all of us must admire, and feel grateful to those kind people who do their best to supply good places to good men. But do what they may, there are still places vacant, and still gardeners out of place, and I would suggest to-night that a registry for duly accredited gardeners should be kept and worked by this association, for all men who are well recommended, but especially, of course, for our own members.

One of the greatest modern problems is the cheap and rapid distribution of things, including both skilled labour, and garden or other products—there is ample produce, but we must be continually raising our quality standards, and at the same time improve our means of cheap and rapid communication. The organisation and registration of labour is especially necessary for gardeners, since so many of them are isolated that combination is not easy. I do not propose anything like a trade's union, but merely a central combination and a system of co-operation for their mutual good. It would well repay the gardeners of Ireland to combine and join this association, and to subscribe sufficient to pay a registration secretary, who would devote his time and ability to look after their best interests in every possible way. But when all is said and done, the gardener has really much to be thankful for. I believe, with Ruskin and Kropotkin, that you can't make the best and most beautiful of things in a smoky town—and to the gardener this must always be impossible. Every good gardener takes a great and just pride in his work, and in most cases he ought to feel grateful that his work is carried on in pleasant places, and amid healthy and beautiful surroundings. His work is his very own, and he is right to feel proud of it.

In the making of many things, the "division of labour" principles of Adam Smith, robs the workman of any consolation or proper pride in his work. He is not an individual, but merely part of a system, or of a machine. He may be paid good wages for making the tenth part of a needle, the fifteenth part of a bicycle, a watch, or a sewing machine, but some large firm gets "most" of the profit and "all" the credit of having made a good thing. This is modern industrial slavery, from which the gardener is for the most part free. Now that we have an Agricultural and Technical Department here in Ireland, I hope that amongst other things it will do much to avoid too much centralisation of industries in towns, and revive local and village industries, and that the old time emulation in good work will be re-established, on or in connection with the land in this country. The revival of village industries and the cheapening of railway and other transit charges for raw materials and finished products, I believe, not only relieve the congestion of half our total

unemployed labourers in our towns, but it would restrict the exodus from this beautiful and fertile land of the best and strongest of our population, who at present become down-hearted, and leave us in desperation for the United States of America, or for other and often far less hospitable and kindly shores.

Peas—A Larger Supply Wanted.

Gardeners in private establishments are generally fully alive to the importance of keeping up a regular supply of Peas throughout the season, because they know that few vegetables are so highly esteemed, and a shortage in the supply soon becomes a matter for inquiry. For this reason sowings are usually made each month from February to June, and under such circumstances it is not often that the supply fails until the middle or end of September. Matters are, however, considerably different in regard to the supplies obtained in the market. The Pea seems to be one of the few vegetables which the market grower does not seem to "run for quite all it is worth." Early varieties are extensively planted, and those who are the first in the market with their produce obtain remunerative prices. Then comes the "glut," and with it the inevitable fall in prices. After a time the supply rapidly diminishes, and by the end of July and throughout August really good Peas are frequently extremely scarce, and realise excellent prices. Such weak links in the chain of supply are often noted at the time in the Press; the matter is then forgotten, and a similar state of affairs prevails again the following year. My object in penning this note now is to draw attention to the matter at a time when cultivators may profit from the lessons learned in past seasons, and turn them to profitable account, as there is an almost unlimited demand for good Peas during August and September, and there is no insurmountable difficulty in providing a supply.

Perhaps one reason why midseason crops have not received more attention is that Peas suffer more than most crops during periods of drought; but then such weather affects all vegetation to some extent, and methods of high culture are the best means of combating such unfavourable conditions. For the above reasons deep soils should be selected, which have been abundantly manured for the previous crop; then, with deep digging or ploughing and a surface dressing of superphosphate at the rate of 6cwt per acre, the soil would be enriched in a suitable way for this leguminous crop. From the middle to the end of April is a capital time to make an extensive sowing, and another sowing might be made a fortnight later. As soon as the young plants push through the soil, an application of nitrate of soda at the rate of 2cwt per acre would prove of immense benefit in promoting quick growth by causing the roots to move rapidly, and produce nodules, by the aid of which the nitrogen of the air would be turned to good account in feeding the plants. By having strong, vigorous plants to begin with, periods of drought will not easily affect the crop if surface cultivation receives proper attention. This consists of frequently hoeing to prevent the evaporation of moisture, and the majority of cultivators know how valuable the practice is during hot weather. The dwarf growing kinds of Peas, suitable for field culture, are necessarily sown in rows, somewhat close together, and by the time the pods begin to form the surface of the soil is kept cool by the haulms, and this, combined with the previous work of hoeing and sowing in deep rich soil, complete a chain of favourable circumstances by which the cultivator may successfully fight drought.

The following are excellent varieties for the above purpose. Pride of the Market, 2ft; Princess of Wales, 3ft; Sharpe's Queen, 2½ft; Fertility, 2½ft; Sutton's Satisfaction, 3ft; and Harrison's Glory, 2½ft. All are good growers and fine croppers. In many districts some special variety has a great local repute. In such instances it is unwise to discard a well tried kind, as soils have a great influence on different varieties; but all cultivators should make a practice of testing, on a limited scale, a few fresh ones each year, as it is only by growing them side by side with their favourites that the merits or demerits of newer introductions can satisfactorily be tested in regard to their own locality, and the man who is striving to get the best possible return for labour and capital cannot afford to lose any advantage in regard to the variety grown, or the method of culture adopted.—H. D.



Angræcum sesquipedale.

The thick, waxy flowers of this Madagascar Orchid, their ivory whiteness and their extraordinary form, are at all times wonderful to view and charmingly beautiful. The *Angræcums* are all epiphytal in habit; in fact, the generic name is deduced from *angurek*, a Malayan name for air plants. The specific name, *sesquipedale*, means a "foot and a half," and refers to the long, tubular spur down which a certain species of moth is alone said to be able to penetrate its proboscis in search of nectar. The fertilisation of this Orchid was a matter that interested Mr. Darwin greatly, and he is said, even though he had never seen it, to have declared that a moth must exist with powers to penetrate the extremely long spur. The plant is grown in every garden, though not at all times with equal success to that which our illustration points. This specimen is a most creditable one, and the possessor would do a service to our readers were he to detail the particulars of his successful treatment.

Orchids at Kew.

Seldom have the Orchid houses in the Royal Gardens, Kew, been brighter than they are now. One of the chief objects of interest is *Moorea irrorata* with two moderate spikes, and close by in the same house is *Eulophila Elizabethæ* with three or four racemes just about to open. A number of *Cyrtopodiums*, with their tall and branching inflorescences are at their best, and in hanging pans there are some showy *Broughtonias* (*B. sanguinea*), *Cattleya Lawrenceana*, *C. guttata* *Prinzi*, *C. citrina*, and others also assist the effect, as do the *Dendrobiums* *primulinum*, *Pierardi*, *oculatum* *fimbriatum*, *Wardianum*, *nobile*, *aggregatum*, &c., and the tall flowering *Epidendrums* contrast with the arched racemes of the *Cymbidiums*. A specimen *Oncidium altissimum* is bearing upward of a thousand flowers, while in the cool house the *Odontoglossums* and *Masdevallias* complete a very creditable show. On Sunday last there was a rumour afloat that the Right Hon. Joseph Chamberlain, M.P., had intended to visit the Kew Orchids.

The Week's Cultural Notes.

An interesting section of Orchids are *Catasetums*, *Mormodes*, and similar genera. They are often grown in a rather perfunctory manner, not thrown away, but just left on sufferance; but they are worthy of better things than this. Just now they will be starting to grow, and they must be encouraged by giving them a hot and moist atmosphere, with almost full exposure to the rays of the sun. Later on, when the leaf is forming, a slight shade will be needed, but after the bulbs are finished this will have to be removed entirely and the plants placed in the full sun to consolidate the growth, for without this thorough ripening, as it is termed, no flowers will be produced.

In all probability, some at least of the plants will need repotting, and this is the time to do the work. The plants are very little dependant in most cases upon the last season's roots, the stored nutriment in the pseudo-bulbs forming their mainstay, consequently no harm will be done by shaking them quite free of the old compost and removing all dead or decaying roots. Examine the bases of the bulbs for any trace of decay or insect mischief and remove it, wash the plants thoroughly in tepid water if they need it, and dry them preparatory to repotting.

Keep the habits of the plant in mind when providing their root run. A close, heavy mass of compost is most undesirable, the best rooting arrangement being a small shallow pan or basket, where the roots will be exposed to the influence of the quick atmosphere of the house as well as the stems and leaves. Some of the stouter growers prefer a little fibry loam mixed with the peat and moss for compost; but, whatever is used, great care must be taken to insure perfect aëration of the whole by the inclusion of lumps of crocks, charcoal, or similar material.

After repotting, water in only very moderate quantities will be required, and occasional dews overhead must take the place of root waterings until the latter are again active. In all departments growth will be getting more active, and the treatment will need to be more generous. *Dendrobiums*, *Cattleyas*, and all the popular kinds will all be more or less active, and whenever a little attention is needed in the nature of compost or a shift to more suitable quarters it must be given at once, for delays in these matters are dangerous, causing a check that the plants may not get over all the season.—H. R. R.

Spring Flowering Shrubs.

Although cold and gloom may yet intervene to mar the fair promise of a year of unusual brightness and abundance, it is well to note some of the prevalent characteristics. Of flowering trees and shrubs mention may be made of the profuse production of the very ornamental long pale green catkins of *Garrya elliptica*, and also of the charming yellowed sprays of *Jasminum nudiflorum*, both alike good in the open as against walls, though the latter is the preferable position on account of their flowering in winter. The finest examples are where the shoots have been allowed to grow out from the wall to the extent of several inches, or even two or more feet, pruning being deferred until after flowering. *Lonicera fragrantissima*, with its deliciously sweet flowers, may be regarded as the first-born flowering shrub of the year, and quite hardy, and suitable for the shrubbery border, it bearing cutting-in well. Strangely, the *Laurus-tinus* has not been one mass of pearly flowers, its buds not expanding during the early spring months. *Chimonanthus fragrans*, as usual, laden the air with fragrance, its flowers being produced profusely against a wall with southern aspect, and in the open *Mezereums*, red and white, produced their fragrant flowers in the usual profusion.

Forsythia viridissima is now (April 12) very full of bloom, much more than usual, even on spurred-in plants not more than a yard in height, and the charming surface covering *Berberis Aquifolium* has its abundant massive flower clusters fast opening into full beauty. *Berberis dulcis* has its graceful flower sprays well advanced for display, while the deep orange-coloured flower buds of *B. Darwini* cluster thickly upon its deep green foliaged graceful sprays, and has a few with open flowers. It does best on a deep, rich, light soil, and is seen to best advantage on grass. Towering overhead are the Almonds, still gay with a profusion of blossom. Level with the eye is seen *Ribes præcox* in full beauty, and the deeper-hued *R. sanguineum* are charming in bud, and partly developed racemes. At our feet appear the very beautiful deep pink cushions of *Erica carnea*, and near by the white Heath-like blossoms of *Andromeda floribunda*.

Upward, spreading wide, appear the pretty white flowers of *Prunus Pissardi*, soon to be followed by its lovely deep reddish purple leafage. Double-flowering Sloe, in bridal pearl, lighten up the shrubbery, and Gorse in matchless golden sheen gladden the eye on wayside and waste, no plant so glorious in garden as Double Gorse. Indeed, all Nature seems to be springing into glory, the rich purple opening buds of the purple-leaved *Berberis*, and the still more royal purple of the purple-foliaged Hazel, surpassing in richness the to-come leafage of the Purple Beech. How beautiful are the expanding leaves of the Golden Privet, its warmth of yellow having a particular glow in front of red brick

walls, hence is a particular favourite in urban and suburban gardens, being very tractable, and is as good for division hedges as the common or even oval-leaved green forms. Of course the Golden-leaved Elder takes the "cake" as the finest golden foliaged shrub or low tree in either the "heart" of towns or the country-side, and it gives promise of great beauty.

The Maples are budding, and showing the rich tints of their leafage. What more beautiful than the variegated *Negundo*? On grass it is charming as a bush, bearing cutting to any extent, and the finest leafage is produced on vigorous growths, it making but a stunted subject as a standard, except in good soil and warm situation. With the red *Colchic* Maple, and the other red and purple leaved Maples the variegated *Negundo* is unquestionably the best contrasting, as well as a single ornamental object, the most beautiful of variegated trees. The twigs of the yellow and red-twigged Limes are singularly effective, as the buds start into growth, and the silver sheen of the white Lime trees' opening buds light up the reddish hues of the Sycamores. Lightest green is seen nowhere as in the graceful Larch, so graceful and feathery; while the Queen of the Woods, the charming depending lightness and grace of the Birch, is delightful. Silver is the sheen of the white Poplar, delightful contrast with the bronze of the Canadian Poplar, and this with the Golden-leaved Poplar, the green of the Hawthorn is notable, anon to receive its pearls of white or of ruby blossoms. Even the Lilacs are bursting forth, showing grand clusters of to-be colour and fragrance. Not least is the promise held forth of a galaxy of golden chains on the now light or white swelling buds of Laburnum. Even the buds of the great Pear or *Pyrus* family, are swelling a great promise of blossom; the *Prunus* genus fast advancing towards blossoming, indeed some Plums against walls have been in blossom some time, and the Gooseberry bushes are well clad in leafage, soon to be hummed into fruit by the bees. Truly the "time of the singing of birds is come," and the welcome call of the cuckoo has been heard in our land.—G. ABBEY.



Angraecum sesquipedale.

Products from Victoria.

A large export trade is being developed with the United Kingdom in Victorian butter, cheese, grain, flour, frozen meat, rabbits, hares, poultry; also wines, fruit, fruit pulp, honey, tobacco, &c. In view of a still greater expansion of this export business, it is desirable that the British trader and consumer should be furnished with some information concerning these productions of Victoria, and of the concerted action being taken by the Government and producers of it, so as to export no produce but that of the highest quality and standard. With this aim in view, Mr. J. M. Sinclair, Superintendent in London, of exports for the Victorian Government, has prepared a leaflet which briefly treats in turn of the articles mentioned above. In another issue we hope to print extracts from the leaflet showing the extent to which the fruit industry has developed.



Hypericum humifusum.

In reply to "H. R., Kent," regarding *Hypericum humifusum*, I may state that I found the plant growing on the slopes of the Clent Hills a few years ago, when I was collecting wild flowers, and I have no doubt it is growing there still. The hills are of the Permian formation. There is a great variety of wild flowers to be found in the district; I have collected over 400 varieties, and can testify as to the great interest and pleasure there is in the pursuit.—D. R. DIXON, Stourbridge.

Railway Rates.

The editor did well to call special attention to the article on this important subject which appeared on page 178, as it is of great interest to the fruit grower and market gardener. The arrangement of railway charges is one of the mysteries that the writer of the article does not attempt to solve, and he is wise in his generation, as he would only throw himself into hopeless muddle by making an effort. But every grower of produce knows all about it, though he may have no means of jurisdiction. The fruit growers and market gardeners in the south may stand by the railway side and watch the fast trains from the seaports rushing Londonwards with Continental produce, but they must wait patiently for the evening goods train to call later and take their wares, and they know all the while that they are paying a considerably higher tariff. It is all very well to say that the laxity of the home grower is responsible for the quantity of foreign produce that comes in, but in face of the facts given on page 178, he certainly does not receive much encouragement to get his stuff into the market after he has grown it.—G.

The Bothy.

Seeing so many writing on the bothy question, I take the opportunity of penning a few lines. The bedroom in the last bothy I had the honour to reside in was built over the Mushroom house, and anyone who knows what a Mushroom house is will know that the conditions were not healthy. That was not all, as the damp from the beds had rotted the skirting board round the bedroom, and monstrous slugs, an inch and a half long came up into the bedroom in dozens. In the summer, only having a cupboard in the bothy to keep our eatables in, we had to keep these all on a table at the top of the bedroom, and I have gone before now to get the milk to make something for supper and found—well! I will not shock your readers' sensibilities. But apart from this, it was not the gardener's fault, as a nicer man was hard to find. He repeatedly told the gentry about it, and they even came and looked at the bedroom, but so far as I know, it has not been touched yet, and now, after twelve months in two or three different lodgings I would willingly put up with a bothy as good as my last. There are two of us here, who, with the head gardener, do a twenty minutes' walk two or three times a day to a place where there are twelve houses, and yet a bothy cannot be erected. Can anyone after that wonder at young gardeners being scarce? I am afraid it won't be altered till there are no good gardeners at all about.—A JOURNEYMAN.

On Fruit Production.

I read the remarks under the above heading on pages 289 and 290, by "Herefordshire Incumbent," with more than ordinary interest, and propose to supplement those by no means too optimistic conclusions with a few of my own views on the matter. Our cheery and reverend friend is all for progress, and has been so for many years; but is still dissatisfied. What would he have? Surely he is well aware that remarkable strides have been made in this great fruit-growing industry during, say, the past twenty years, and also that there are no signs whatever of any abatement. Or does he, in his patriotic zeal, limit his horizon to Hereford? He has only to make a short trip to Evesham and district, in which some parts of Gloucestershire as well as Worcestershire must be included, to see what has been done and is still going on in the way of planting fruit trees. Probably ere these notes are in print visitors to a ridge just out of Evesham

will get a magnificent view of country, almost as far as objects can be well distinguished, of fruit trees, and apparently nothing else, all coming into bloom, the Plums in particular presenting the appearance of a snow-clad forest. This, it may be urged, is an exceptional case, and I do not dispute the point, but at the same time assert that planting has been going on with equal determination and zeal in various other parts of the country, only not being so concentrated we see and hear less of it. What has become of all the millions of trees prepared for sale by Messrs. Bunyard, Rivers, Smith, Pearson, Horne, Fletcher, Low, and others? Is it not a fact that all these growers, to say nothing of numerous less well-known firms, annually clear out all their stocks of best varieties, so early in the planting season, too, that orders after midwinter have to be refused?

Take, for instance, Apples Cox's Orange Pippin and Devonshire Quarrenden. How many two-year-old dwarf trees of the former or three-year-old standards of the latter are left on the hands of nurserymen at the present time? As a matter of fact, so closely are these and a few other popular varieties, including Bismarck, Warner's King, Peasgood's Nonesuch, Stirling Castle, Newton Wonder, and the like bought up, that intending planters have already placed their orders for next autumn delivery. We want no Virginian planters among us, American methods of swamping all little men not being good for this country. All we ask for is fair play. Not only are we fully capable of producing all the hardy fruit required for home consumption, but if the Continental and American markets were thrown open to us as freely as ours are to them we could also, in many seasons, supply them with produce superior to what they endeavour to drive us out of our own markets with. This may seem so much tall talk, but it is only the truth. The British agri-horticulturist has been presenting the "other cheek" quite long enough, and the time has arrived for a little plain speaking.

We hear much about the very bad methods of marketing followed by our growers, the American and Colonial growers not erring in this respect. It is true that immense quantities of home-grown fruit has been put on the market in a faulty way, very little in the way of grading and good packing being attempted, but these serious mistakes are mostly traceable to agriculturists pure and simple, who, it can easily be proved, have let the fruit-growing industry practically slip out of their hands. Our newer race of land cultivators and fruit growers may be trusted to market their produce to the best advantage, and I sincerely trust will also prove to be sufficiently energetic and clamorous to get fair play from both the Government and railway companies. Because our Colonial, Continental, and American rivals started grading and packing well, it does not follow that they are scrupulously observant of the rules they originally laid down. It is a pity those who give these packers frequent gratuitous advertisements do not more often see some of the packages of imported fruit opened. Wrapping Apples in paper and packing closely in boxes is essential to good travelling, or otherwise I doubt if it would be done, unless it is thought that the undersized Apple Scarlet Nonpareil and the grub-eaten Sturmer Pippins from Tasmania are less conspicuously poor in quality out of paper than, as with us, packed in the loose. Take, again, the boxes of Pear Williams' Bon Chrétien from France. The top layer of these is nearly always much superior to the under layer, and large numbers of maggoty fruit are frequently included. The only really good Apples from America (United States) are the Newtown Pippins. The rest are poor, though showy, mealy things. I repeat we can, and eventually will, more than hold our own with our at present more favoured rivals. "Herefordshire Incumbent" does well to inveigh against the "tyrannous and ruinous system under which a vast proportion of the land in this country is held," and those who would restore prosperity to country districts generally ought to be equally outspoken on the subject.

I cannot help thinking, though, he is a little in error as to the suitability or unsuitability of land for the purpose of producing hardy fruit. Undoubtedly some land is much better than other classes of soil for fruit culture, and if there could be no variation of treatment, then he would be altogether in the right. According to my experience, it is largely a question of treatment. The typical English farmer has been content to stick a few or many trees into ground either long since sick of fruit trees, or else into fresh soil supposed to be of the best description for fruit culture, needing, presumably, no special preparation, and as a consequence a very bad start is made, a comparative failure resulting. So careless and indifferent have landlords, agents, and farmers been that what should have been a valuable adjunct to a farm, viz., from five to twelve acres of fruit trees, has been allowed gradually to deteriorate, and the letting value of the farm lowered considerably accordingly. I blame the landlords and their agents more than the tenants for these serious oversights, as the last-named ought not to be expected to improve other people's property, with the prospect of increased rent for their pains. Lord Rosebery is wiser in his generation. In the neighbourhood of Mentmore Damson growing is a most prominent industry, but Lord Rosebery's talented gardener, Mr. Smith, has been mainly instrumental in establishing these profitable orchards, not hand-

ing the young trees over to the tender mercies of experienced farmers before they, the trees, are almost capable of taking care of themselves. A pity it is so few other landlords have followed this excellent example.

Not only has the education of farmers' sons been sadly neglected in the matter of hardy fruit culture, but I think it equally monstrous and surprising that this branch of farming has been systematically ignored at all our higher class Agricultural Colleges. Agents galore are turned out by these institutions, but what do they know about this great industry of fruit-growing? Great opportunities have been missed. Will the authorities in question ever wake up to their responsibilities and emerge from the grooves and traditions handed down to them by previous



Iris Warleyensis, a new species.

generations of masters? Luckily, the more practical, go-ahead class of men now largely engaged in the fruit growing industry are independent of landlords and their agents.—W. IGGULDEN.

Iris Warleyensis.

This beautiful new species of *Iris* was exhibited before the Floral Committee of the Royal Horticultural Society by Miss Willmott on March 8 and March 25, and on the latter date a First Class Certificate was awarded. This is one of a number of plants secured by Mr. J. Hoog, of Haarlem. *Iris Warleyensis* was found in Bokhara, Western Turkestan, and belongs to the *Juno* section of the genus. The stems and leaves are smooth, shining, and of a pleasant bright green. The flowers are soft azure blue, the recurving sepals tipped with purple, but the standards are depressed and inconspicuous. Our illustration is from a sketch by Mr. George Shayler.

The Phyllocacti.

Possibly the Phyllocacti are the showiest of those singular succulent plants belonging to the natural order Cactaceæ, indigenous to Brazil and Mexico. Flowering as they do in spring, the blossoms comprising colours ranging from white to scarlet, these grotesque plants are invaluable. The interest taken in these plants has decreased during recent years. I attribute this to the fact of their being too easy to grow; the tendency nowadays is to discard plants which any amateur can grow, and cultivate simply those that require above the average attention. As to the merits or drawbacks of this system I do not propose to dwell in this article, my aim being rather to increase the interest taken in these *lusus naturæ*.

When the native habitat of a plant is fully considered, there need be no apprehension as to the treatment they require when grown artificially. Let us apply this theory to the growth of the Phyllocactus. Being indigenous to tropical, dry climates—Brazil and Mexico—obviously the position they require is that of a dry stove, and to this latter circumstance may be attributed the decrease in their cultivation, for the plant stove nowadays requires much more atmospheric moisture than stove plants had formerly, when the atmosphere was of a dry, parching nature, extremely conducive to the production of red spider and kindred pests.

PROPAGATION AND GENERAL CULTURE.

As regards propagation, they are best struck in spring before growth commences, from cuttings of the mature shoots—5in to 6in long. Fill 3in and 4in pots with a compost of a very porous nature, consisting of good loam, with a liberal supply of crushed brick rubble and sand mixed, and insert the cuttings firmly, placing them in a temperature of 60deg. They require no more water than is requisite in keeping the soil just moist. Neither is it a good plan to place them under bellglasses, as it induces rotting. A mild hotbed suits their requirements best until they are rooted. When the pots are filled with roots, remove the plants to those of a larger size. Provided they are struck in a 3in pot, 5in pots will be ample. Anything in the shape of overpotting must be studiously avoided. The same compost may be used as previously, care being taken to ensure perfect drainage. They should be grown through the summer in a moderate heat. An unlimited supply of sun heat may be allowed, together with abundance of air, but no artificial shade. The supply of water may be increased in proportion to the root action, but at no time in their history should an over-abundance of water be provided, preference being given to dryness than otherwise. Should the plants, after they have started into growth, not show a disposition to form side shoots, the point of the leader must be pinched out in order to induce them to break back.

During winter keep them cooler, in a temperature of 45deg to 50deg, and decrease the water supply. About the latter end of February place the plants in the stove to start, and when growth has fairly commenced, provided the pots are well filled with roots, they may be shifted into those of a larger size, using the soil previously recommended. All through the summer allow the plants to have the full power of the sun, either indoors or outside in a southern aspect, moving them indoors once more in September, placing them in a cool house, and wintering as previously. Start the plants early in spring, in order to allow them ample time to make their growth before they are placed outside, and also to ensure their being perfectly ripened before the sun's power wanes. It is not often that the plants flower before they grow to a considerable size, although a few blossoms may be had from young well ripened growths. But the cultivator will be rewarded, provided the plants have had a course of treatment similar to the above, by a large quantity of gorgeous coloured flowers, the true character of the plants being seen when they have grown to large proportions. As regards the treatment necessary for the plants in future years, nothing more is required than the requisite shifting to larger pots, and the necessary conditions essential to plant life to ensure their longevity. To recapitulate, the essential points necessary to ensure success are:—

1. A dry atmosphere.
2. The cuttings struck in a hotbed, and not under a bell-glass.
3. A limited supply of water must be given, especially in winter.
4. Overpotting must be studiously avoided, as this and the above two items are favourable to rotting.
5. Thoroughly ripen the growths during summer, to ensure supply of flowers.
6. In order to find out the real character of the plants, carefully attend to minor details.—J. DENMAN, Brynbella, Tremerchion, St. Asaph.

NOTES & NOTICES

Examination in Horticulture.

The Royal Horticultural Society's Examination will take place on Wednesday, April 23, at various centres throughout Great Britain. Intending candidates are requested to forward their entries at once to the Secretary, R.H.S., 117, Victoria Street, London, S.W.

The Dahlia Analysis.

This important annual contribution to the *Journal of Horticulture* will be published, we trust, in our issue of May 1. It will be a guide to the increasing cult of Dahlia lovers as to the favourite varieties. Cultural and other notes on Dahlias will form a feature of the number.

National Auricula and Primula Society.

The Exhibition of the National Auricula and Primula Society will be held at the Drill Hall of the London Scottish Volunteers, James Street, Victoria Street, Westminster, on Tuesday, April 22, 1902. A luncheon will be provided at the Hotel Windsor, at 1.30 p.m., for the judges, members, and their friends; tickets, 2s. 6d. each.—T. E. HENWOOD, Hon. Secretary and Treasurer, 16, Hamilton Road, Reading.

The Horticultural Club.

A delightful evening was spent at the club on Tuesday, April 8, when Dr. Henry was the guest. The chair was taken by the Vice-Chairman, Mr. H. J. Veitch, and amongst those present were Sir Trevor Lawrence, Bart., Sir W. T. Thiselton-Dyer, the Rev. W. Wilks, and between forty and fifty members and friends. The Chairman, Sir J. T. D. Llewelyn, Bart., was, to his great regret, unable to be present. There were a few toasts, two of the more important being "Our Guest, Dr. Henry," proposed in a happy speech by Sir W. T. Thiselton-Dyer, and "The Royal Horticultural Society," proposed by Mr. George Paul and responded to by Sir Trevor Lawrence. During the evening Sir Trevor Lawrence presented the Veitch Memorial Medal, awarded to distinguished horticulturists, to Dr. Henry.

Royal Horticultural Society.

The next Fruit and Flower Show of the Royal Horticultural Society will be held on Tuesday, April 22, in the Drill Hall, Buckingham Gate, Westminster, at 1 to 5 p.m. The National Auricula and Primula Society will hold its annual Show at the same time and place. A lecture on "Campanulas" will be given by Mr. M. Prichard, F.R.H.S., at three o'clock. * * At a general meeting of the Royal Horticultural Society, held on Tuesday, April 8, forty-three new Fellows were elected, amongst them being Lord Churchill, K.C.V.O.; Lady Audrey Ryder, Hon. Mrs. Chichester, Colonel Malcolm, C.B.; and Professor R. J. Harvey Gibson, M.A., F.L.S., making a total of 400 elected since the beginning of the present year.

At the Royal Horticultural Society's meeting, to be held on April 22, in the Drill Hall, Buckingham Gate, Westminster, special prizes will be offered for Daffodils, open to amateurs and gentlemen's gardeners only. First prize, a £7 7s. Silver Cup (presented to the Society by Messrs. Barr and Sons); second prize, R.H.S. Silver Flora Medal. Group of Daffodil blossoms, grown entirely outdoors (Polyanthus varieties excluded); must include some of each section Magni, Medio, and Parvi-Coronati; must contain at least thirty varieties distinct, at least three blooms of each must be shown. Not more than nine blooms of any one variety may be put up. To be staged in bottles, vases, or tubes, not exceeding 3in in diameter at the top (inside measurement), and all the stems must touch the water. Quality of flower will count more than quantity, and correct naming and tasteful arrangement will be duly considered. Any hardy foliage may be used, Daffodil or otherwise. No prize will be awarded unless there are three competitors at least. Entries should be addressed to Secretary, R.H.S., 117, Victoria Street, London, S.W.

The Temple Show.

In little over five weeks from this date, the great "Temple Show" of the Royal Horticultural Society will be upon us. Trade growers and others who exhibit there will have an anxious time between now and then.

Spilsby Spring Show.

We are informed by the honorary secretary, Mr. Alex. M. Wilson, that the Spilsby and District Narcissus and Tulip Society's Show will be held on Tuesday, April 22.

Flower Beds in the Parks.

The rivalry between the head gardeners of the London parks, both Royal and County Council, will be keener than usual this year. The order has gone forth that they must, so far as possible, fill their flower beds with blooms in the Royal colours, and arrange them in the forms of Royal devices to celebrate this gorgeous year of Coronation.

Chrysanthemum Schedules.

The annual report and financial statement of the National Chrysanthemum and the Highgate Chrysanthemum Societies are to hand, together with their schedule of prizes. The N.C.S. are again offering large prizes for a floral display of Chrysanthemums and foliage plants, and numerous special prizes by trade firms. A list of the dates of the shows will be found on one of our back pages. The Highgate Society is to hold their annual exhibition in the Alexandra Palace on Wednesday, Thursday, and Friday, October 29, 30, and 31. We notice a number of special "Coronation" classes, the first of which offers ten guineas and a silver-gilt medal, seven guineas and silver medal, four guineas with bronze medal, and two guineas with bronze medal, in four respective prizes. Class II. offers a silver cup and five guineas, and five guineas as first and second respectively. Verily, Highgate is still true to its old love. The hon. secretary is Mr. W. E. Boyce, 20, Holmesdale Road, Highgate.

"A Bird and Arbor Day."

In February this year, Mr. E. D. Till, whose name everybody knows in Kent and beyond, was awarded the first prize by the Society for the Protection of Birds, for his essay on this subject. He has since had it printed, and a copy has been received by us. Mr. Till desires that every local centre throughout the United Kingdom should set aside one day in the year for the planting of trees, as is done in many of the American States. "Early settlers in America destroyed the forests and rapidly spent their substantial heritage, but many awoke to the danger and devised measures of protection which ultimately led to an Arbor and Tree-planting Day." The memorial tree-planting at Eynsford (Mr. Till's locality) is cited as an instance of what could be done with public lands by public bodies. There are many wasted moors and odd places, too, that could be planted with ultimate profit. The work of inaugurating an Arbor Day lies mainly with local men of influence who have the true welfare of the nation at heart, and by spirited effort here and there in the provinces, the movement ought to establish itself and develop.

"The Book of the Apple."

Not long ago we published a review of Mr. Arnott's "Book of Bulbs," and now we have before us the succeeding issue of this series of Handbooks of Practical Gardening, by Mr. H. H. Thomas. The author has treated, in a brief and thoroughly lucid manner, of the culture of the Apple in all its stages. The opening pages are devoted to a discussion of the forms of trees; thence he goes on to planting, pruning, gathering, and storing, and concludes with lists of varieties, the qualities of the best in their several seasons being compared and appraised. There is nothing in the book that we do not entirely agree with, though we think some remarks might have been added on orchard-house treatment. We are pleased to notice that particular reference has been made to dwarf horizontal espaliers, from which a considerable amount of fruit can be relied on, and being in such manageable form, protection from spring frosts can be afforded swiftly and effectively. The list of varieties appended is representative and good. The Editor of the series, Mr. Harry Roberts, concludes this little book with interesting chapters on the history and cookery of the Apple, and also furnishes comments on the making of cider. The price is 2s. 6d. net, Mr. John Lane, London, being the publisher.

Mr. William Paul, V.M.H.

The "American Florist" for March 29 contains a portrait of Mr. Wm. Paul, and furnishes an appreciative notice of his life work among the Roses.

Fumigating for Mealy Bug.

In a vinery attached to a private garden in Kent the hydrocyanic acid gas fumigation proved successful. The house had a capacity of 3,825 cubic feet. It was treated before the Vines bloomed with the following dose: Cyanide 27oz, acid 40oz, water 60oz. The application was made after sunset, and exposed three hours at a temperature of 60deg Fahr. The mealy bug was destroyed, and there was no injury to the Vines. A few insects appeared in the autumn and a second fumigation was given, with the same success as in the previous case.

Another New Magazine.

We are informed, says the "American Florist," that Wm. Robinson, the well-known author of the "English Flower Garden," founder of the "Garden," and for many years its editor, intends publishing a monthly magazine, the "Garden Flora and Sylva of Northern and Temperate Countries," to be devoted to out-of-door vegetation. The intention is to make it more for artistic excellence than for pecuniary benefit, as he believes there is a field for and a large constituency of garden lovers that would appreciate and support the publication.

The Hornet Clearwing Moth.

Dr. R. Stewart MacDougall and Mr. James Waterston, at a meeting of the Botanical Society held in Edinburgh the other evening, exhibited specimens of the hornet clearwing in different stages of its life history, and also sections of stems destroyed by the larvæ. There was no doubt, Dr. MacDougall explained, that this insect was spreading in the West of Scotland, quite a large clump of Willows near Glasgow having been ruined by it. The insect laid its eggs near the base of the tree, and the caterpillars, feeding first below the bark, later bore galleries in the wood. An allied species was sometimes most destructive in Britain to Red, White, and Black Currant bushes.

The English Arboricultural Society.

It must be confessed that until we read the report of the twentieth annual general meeting of this society, which was held at Peterborough on August 13 last, we had a very unsatisfactory opinion of its power or the work it is doing. But since reading the verbatim report of the numerous speeches made on the occasion of the annual meeting, and the visitations which formed part of this yearly assembly of the members, we recognise that though the society has no habitation of its own, yet with its 500 members, many of them wealthy and influential, it is likely to grow steadily in usefulness and power, and to become a recognised influence working for the good of one of the great natural assets of this country. Dr. Somerville (now of the Board of Agriculture) occupied the chair, and in the course of his presidential address he made three suggestions, one of which was to offer ten guineas in money, ten guineas worth of forest literature, or a ten guinea silver cup, to the person who, during the current year, enlists the greatest number of new members. His second suggestion was that the headquarters of the English Arboricultural Society be removed to London; and his third, that a joint-stock company be formed for the purpose of acquiring 200 or 300 acres of land to be managed as a model forestry centre. Dr. Somerville estimated the cost of 200 acres for that time at £5,000, and thought it would prove a most satisfactory investment, seeing that returns could be expected in twenty to twenty-five years. Places visited during the outing were Milton Park, Bedford Park, Elton Hall, Orton Hall, and Belvoir Castle. The general meeting this year will be held in London, en route for the Forests of S. Amand, Compiègne and Retz, permission having been granted by the French Government. Two prize essays appear in the Transactions, which embodies the report: one on "Roads," the other on "Timbers," which is splendidly illustrated by micro-photographs. Many useful articles and notes are also incorporated in the Transactions, making the publication most useful and practical to all who are connected with forestry or the wood trade. The secretary is Mr. John Davidson, Land Agent, Haydon Bridge-on-Tyne.

Appointment.

Mr. E. Allen, for the past three years head gardener at Maindee Park, Newport, Mon., as head gardener to the Mackintosh, of Mackintosh, at Cottrell, near Cardiff. Entered his duties March 24.

Apples from Victoria.

The Victorian Department of Agriculture has forwarded a consignment of 127 cases of the finest selected Apples grown in the State of Victoria. These are for exhibition, and subsequent sale at Covent Garden. This consignment arrived by the Ophir last Saturday, and was exhibited at the Floral Hall, Covent Garden, on Wednesday.

Trade Notes.

Messrs. Blackie and Son contemplate a reissue of Kerner's "Natural History of Plants," a work which, in its English form, is identified with the name of Prof. F. W. Oliver. The new edition, which will be issued at a considerably reduced price, will be substantially a reprint of the original English edition, with a few necessary alterations and corrections.

Weather in the North.

In the earlier part of the past week frost from 2deg to 8deg occurred, and throughout cold easterly winds have prevailed. Rain fell during two nights, and this has somewhat helped vegetation, which has not advanced much for the past month. Farm labour has been favoured by the dry, though cold, weather, and is well advanced.—B. D., S. Perthshire.

Teaching Natural History.

From the Society for the Promotion of Christian Knowledge, Northumberland Avenue, W.C., we have received three large sheets representing coloured diagrams on a greatly magnified scale, of various fungous growths (Golden Clavaria, Fly Mushroom, &c.), and also the Male Fern, *Aspidium Filix-Mas*. These illustrations are on a very large scale, as we have said, and are coloured after Nature. The botanical part of each is explained in sections, accompanied by elucidatory text. Being on stout white paper, and edged with stiffer material, the sheets are suitable for hanging upon the walls of a study or class-room. The object is to teach Nature to children, and deserves praise and appreciation.

Sprain in Potatoes.

From a Fifeshire correspondent we have received particulars of investigations made by Dr. John H. Wilson, of the University of St. Andrew's, regarding the disease known as sprain, or spraining, in Potatoes. Circulars containing questions were sent to many of the Fifeshire farmers. The replies clearly show that "sprain" is far from being of universal occurrence. The Maincrop variety seems to be most subject to "sprain." Regents are another variety stated to have been extremely liable to "sprain." British Queen is found to have a marked tendency to the disease, and the same may be said of Abundance. Up-to-Date is less subject, on the whole, and in many instances it is exempt, when other well-known varieties are diseased. Bruce and Farmer's Glory are in a very large measure exempt, the former being a shade less liable to attack than the latter. Statistics of certain other varieties are too scanty to base reliable conclusions on. It may, however, be pointed out that the record of Magnum Bonum is good. The variety most subject to "sprain," as already noticed, is Maincrop. This and other varieties specially subject to the malady are commonly described as fine, with abundant starch. On the contrary, the varieties less subject to "sprain" are regarded as being inferior in quality—that is, they are more waxy. It is of great interest to inquire why a tuber of fine quality, like that of Maincrop, is specially liable to alteration in its structure under the conditions indicated above. The problem is largely a question of plant nutrition. The great bulk of the material stored is starch. If the variety is one which has less to elaborate and less to store it may readily enough be less subject to suffer from untoward conditions during its active period. The assumption is that something happens to interfere with the normal starch-storing operations of the plant. This may be due to check at the root through drought or the lack of appropriate food, or a check given to the parts above ground. The problem in its varied aspects is one which the trained scientific worker and the experienced cultivator might well unite in investigating.

Bauhinia acuminata.

It is feared that few, if any, of the nursery firms cultivate the Bauhinias, a genus of tropical Leguminous plants, whose pretty flowers and the growth of the plants themselves form glorious objects in tropic scenery. But the lack of sunshine in England seems to be deterrent to their success as floriferous objects. At Kew some years ago, and probably since then as well, the species we figure on the opposite page attracted considerable notice when it flowered. The blooms are beautiful white, with greenish veins, and are borne in clusters in the axils of the leaves at the points of the shoots. Some of the individual flowers measured nearly 4in across. This Kew plant flowered in the Palm house, and was raised from seed sent from Madras in 1883 by Sir M. E. Grant-Duff. A synonym of *B. acuminata* is *B. candida*. Propagation is effected also by cuttings of half-ripened wood, and the plants succeed in a mixture of sand, loam, and peat. It would be gratifying to learn of other plants of the genus cultivated outside of Botanic Gardens.

Peculiarities of the Persian Cyclamens.

Writing to the Scientific Committee of the R.H.S., the undersigned says:—"The *Cyclamen persicum* (latifolium) is characterised by its 'sporting' tendencies, to the investigation of which I have given much care and attention. The main points of interest are these:—(a) The Persian Cyclamens raised from seeds cannot, after the third or fourth year, be induced to retain their former characteristics, as regards the colour of the flowers, &c. (b) Although the flowers are liable to 'sport,' they cannot be regarded as specific characters, because they will not reproduce the same sporting tendencies when raised from their own seed. (c) The same plant frequently produces two flowers of distinctly opposite colours; or, on the other hand, a plant, say with pure white flowers, will produce a mixture of colours after an interval of three or four years. (d) The sporting peculiarities of the Cyclamen being such, what steps may be taken to ensure the retaining of the distinctive colours of the plants under consideration?

"Let us briefly consider the first point:—The 'Persian' Cyclamen, quite apart from the other species, cannot be induced to retain its seedling characteristic colour after an interval of three to four years. Now, why are these peculiarities so marked? The plants which were under trial were quite secure from the visits of insects to cross fertilise the blooms; and further, even if the flowers were visited by insects, how comes it about for the flowers produced on the old plants, to 'sport' from their original colour? Whereas seedlings from the same plants do not exhibit signs of 'sporting,' but retain the original colour of the seed-bearing plant, unless, of course, the flowers were hybridised. I am convinced that the peculiarity is due to some changes which take place in the bulb previous to its flowering for the third year, and that it is not effected by the intervention of foreign agencies, such as insects, &c. It must be understood that these peculiarities are not exceptional, as some suppose, but rather the reverse; it is the rule.

"From about fifty plants grown, I do not notice one that has not 'sported,' the white flowers have been spotted with pink, and vice versa; the red and purple have been distinctly darkened in colour, while the natural-spotted flowers have been changed either into pure white or red, as may be the case—some plants, again, as before mentioned, bearing two flowers of opposite distinct colours. Let us now compare the *Cyclamen persicum* with the hardy species; take any of them, for instance, the *C. europæum*, *C. repandum*, or any of the others; have they been known to sport? No! And yet these are daily visited by myriads of insects, without apparent results. This, then, proves that the suggestion which I have put forward is correct, and further that this peculiarity is confined to the Persian Cyclamen alone. As it is not due to the intervention of foreign agencies, or external conditions, the sporting element must take place in the cormous root of the plant.

"The plants of the order 'Primulaceæ' are conspicuous in the vegetable kingdom for their sporting peculiarities; but of the whole genus none can possibly excel the Cyclamen in this respect, and in addition to this the flowers are often malformed, i.e., examples have been seen which instead of the usual single flower bore three and four blooms, and a number of foliage leaves on the same stem. After a cursory glance over the former points, we

come to the final one: What steps may be taken to retain the original and distinctive colours of the flowers? I can see no way out of the difficulty, with the exception of growing none but young plants, and discarding them after they are three or four years old. Could we trace this deficiency to insects, &c., or if we could have any proof that the peculiarities are due to the flowers themselves, then we could possibly find a remedy. But in spite of all these *lusus naturæ*, the point is one which appeals to the scientist more than to the horticulturist."—J. DENMAN, Brynvela, Tremeirchion, St. Asaph.

Spider Runners and Lurkers.

Speaking generally, we may say that the spiders whose habit it is to rove from place to place fare better at the hands of gardeners, and the public too, than those which have a web as a home and a trap. Often this web is conspicuous, and it is roughly swept away, the maker not always escaping; if it does, the work has to be done again. Wandering spiders are frequently unobserved, sometimes when seen they are mistaken for other insects; certainly they may well be spared for the services they render. Gardeners occasionally kill them should they chance to be in flowers or partly folded leaves; usually, such spiders are cautious in avoiding the approach of man, their colour, with some species, serves as a disguise. One of the running spiders, indeed, which species seems uncertain, is considered to be lucky, and if a specimen comes near us, it is thought to indicate the arrival of unexpected money. A few of the hunting spiders, though they have no web, make a silken cell, attached to a plant or wall, into which they can retreat, and perhaps take their prey.

We have about twenty-seven species of *Lycosa* in Britain, familiarly called the wolf spiders; but none of them so large as the celebrated tarantula of Italy, which belongs to the tribe. No particular ill result, however, follows its bite or sting, the irritation being but temporary, and the stories concerning it are fabulous. Still, there are exotic spiders, the bite of which is followed by dangerous results. No doubt some of our British spiders possess poison fangs capable of inflicting a painful bite; but apparently they are inclined to be pacific—it may be our cooler climate. Gardeners may have many chances of a bite from both the web-makers and the wandering species, especially the wolf spiders. Their name arose from their predatory habits; but, unlike the quadrupeds, they do not go in packs, hunting solitarily. For a sample of this group we may take the common *L. amentata*, a spider partial to low-growing and large-leaved plants; also often seen upon heaps of stones, waiting, doubtless, for insects apt to settle upon them. Yellow and black while young, they become brownish as they grow older, having the legs hairy. It is not easy to catch one, if a male especially, since he goes both by runs and leaps. When looking after flies or other winged insects, a wolf spider will remain quite still in the rib of a leaf, and rushes suddenly upon its prey. Towards the end of summer, the female may be noticed with her egg-bag, which she carries about attached to her body, and watches over the young brood at first. Somehow they live on through the winter, except those which afford food to other creatures, attaining the adult stage in April or May. We have a species of the tribe semi-aquatic. Leaving game on dry land, the *Dolomedes fimbriatus* constructs a raft of grasses and bits of leaves, floating about to secure its victims.

Then we have hunting spiders, whose usual plan is to secure they prey by a leap or spring, and they are rarely unsuccessful. Most of us know *Salicus scenicus*, a grey wanderer, with transverse white bars upon the back and legs, of very rapid movement. It has been noticed that when one of these is going to jump upon an object in view, it does so, having first fastened a line to the place whence it springs, keeping this line attached to its body. This is presumed to be as a guard against a tumble, should the mark be missed. It is in the family *Thomisidæ* that we have the most crab-like type of British spiders. Most of them have long and powerful fore legs; the hinder pairs are feeble, but they are so constructed that the spiders can run forwards, backwards, or sideways quite easily. Some of them chase their prey, while others lurk for them in holes and folded leaves. A few species throw out threads which enable them to rise in the air, and float a long distance; these are familiarly called gossamers, the object of these migrations is open to conjecture.

One of the above tribe furnishes a good illustration of insect mimicry. Going past some plants of the common *Orchis maculata*, a gentleman observed that several flies were hanging from the flowers in a very odd position. Making an examination, he discovered the flies were in the clutches of a species of spider, others that had been killed and sucked lying at the roots. But the spiders so closely resembled the *Orchis* flowers that they were

difficult to detect, being rather handsome, yellowish green, marked with brown, the female larger and shorter legged than their male companions. This spider proves to be *Thœmasus citrinus*, and the fly in this case was *Empis tessellata*; probably

A frequent object upon the under side of leaves in gardens is the white cocoon of *Theridion pallens*. It has a pearly appearance, with some little points upon its surface. The female spider generally deposits several of these cocoons, each containing a



Bauhinia acuminata.

various flies besides are captured. The curious part of it is that the *Empis* is a carnivorous fly, seizing smaller species and piercing them with its beak; but it does not escape this artful spider. Also, the species has been found lurking in yellow and red Roses, on Mullein, and the Ox-eye Daisy.

score or two of eggs. In another species of this genus the cocoons are placed under a compact silken tent. These spiders do not form a regular web, but throw loose threads over plants; many of the captives break away before the hunter can secure them. —ENTOMOLOGIST.



Godfrey's Chrysanthemums.

That Mr. W. J. Godfrey, the Chrysanthemum specialist of Exmouth, is a man of energy no one who knows him will deny, and that he is second to no trade grower of the popular Autumn Queen is also apparent. We received on Saturday last one of the best executed coloured illustrations of Mr. Godfrey's Chrysanthemums that have reached Mitre Court, and we feel gratified to learn that this beautiful and well-finished presentment came from the hands of British workmen—that is, Blake and Mackenzie, Liverpool. The varieties shown are: (1) Godfrey's Masterpiece; (2) Exmouth Crimson; (3) Sensation; and (4) Godfrey's Pride; and the size of the sheet on which they are printed measures 19½ in across by 30 in deep,—truly a large picture. It is a splendid record for the Coronation Year, and will serve as a guide to compare from in years to come. At first sight the blooms would appear to be enlarged beyond the size of the natural flowers; but this is not so, for on measuring the largest flower we find it spans 9½ in one way and 9 in in the opposite direction. Those who have seen the flowers at London and other exhibitions will agree also that the colours are a remarkably close imitation of the natural shades. It is a most creditable production.

Notes on Chrysanthemums.

The various sections of Chrysanthemums established in pots of various sizes require unremitting attention at the present time and onwards through the season. The amount of air allowed the plants and the supplies of moisture to the roots are of great importance. In a confined atmosphere after the plants have commenced to make fresh roots the growth will extend unduly, and not be so substantial as it ought to be if allowed plenty of fresh air, of course avoiding cold, draughty currents, which are liable to produce mildew. The watering, too, must be on careful lines, maintaining the soil sufficiently, but not too moist. Expose the plants fully on fine sunny days, and those that are strong and have received sufficient hardening may stand entirely outdoors in a warm, sheltered corner. Recently rooted cuttings will need to be potted singly, giving them cold frame treatment. Afford a little shade during the warmest sunshine until root action is free. If the soil is moist at potting time it is not necessary to give heavy waterings, but the plants may be sprinkled, or lightly syringed, daily for a week or so. The weather and the state of the soil will, however, afford some guide.

Where a large stock of plants is grown, or even in a small and limited collection it will be found that some plants require potting on, while others are not ready, so a constant look-out must be kept to catch the various individual plants before root-bound, for immediately small plants in small pots become root-bound the growth is of a spindly character. Many of the plants, now nicely established in 3 in pots, may, with advantage, be transferred to 5 in or 6 in pots, making them moderately firm. The compost most suitable is three parts loam, one part leaf soil, half a part decayed manure, with sand, charcoal, and a little bonemeal. Mix the whole thoroughly together, and bring to a moist state for potting. Plants that are tall should have a stick placed to them and be loosely tied. At this stage it must be decided the particular manner in which the plants are to be grown, for in about ten days after the potting the stopping of the shoots is in many cases necessary. Stopping with a view to timing the blooms, consists of just taking out the points of shoots in order to induce an earlier break of growths than would be the case if left naturally. Stopping is also adopted to induce a larger number of branches. In this case an inch or more of growth may be cut off, while later on plants may be cut down to any height, and new growths will push freely. Potting and stopping ought never to be done together, as new growth does not readily push when root action is not free. Bushy free growing plants are produced by frequent stopping of young tender growths, each stopping being done when 4 in of growth has been made. This may be carried on until June but not later, or stems that will flower cannot be depended on.

A batch of early-flowering varieties, growing in the open garden, is indispensable for affording a quantity of cut blooms during the autumn, and making a show. Quite small plants placed out now in good ground in an open position soon advance into good plants. Arrange them in rows 3 ft apart and 2 ft from plant to plant.—E. D. S.

III.—Botany in the Garden.

(Continued from page 248.)

THE ROOT.—In treating of the members of the plant I begin with the root, as this is the base, and is the first part to emerge from the seed. The root is the descending axis, and its functions are to fix the plant in the soil or other medium in which it grows, to absorb nutriment, and to act as a store for nutriment.

The apex of the root is protected by a root-cap, or peliorhiza. Growth does not occur at the actual tip of the root, but behind this root-cap, which consists of dead cells. Roots are without stomatas, but are generally furnished with numerous unicellular root-hairs. These act as the mouths of the root, or, more correctly, of the plant, liquid food being absorbed by them. This process of absorbing dilute mineral salts is called endosmoses. Through the root-hairs a small quantity of cell sap passes from the plant by exosmosis. This cell-sap is generally acid, and it is thought that certain constituents of the soil which are insoluble in water may be acted on and rendered soluble, and thus available as plant food.

Roots appear to have the power of searching for food, as is illustrated by the fact that they develop most in the direction of moisture. They also have a certain amount of selective power, as different species take up chemical elements in different proportions. It is this fact that supplies us with our reasons for rotation in cropping and the use of special manures.

Roots are distinguishable from underground stems by (1) their downward growth, (2) their not producing leaves, (3) their growth behind the apex, (4) their internal structure. Roots get their nourishment (1) from moisture in the soil; (2) from water, as do the aquatics; (3) from moist air, as the epiphytes; and (4) from other plants, whence they are called parasitical.

Roots are of three principal kinds: (1) Normal or tap roots; (2) lateral or secondary roots; and (3) adventitious roots. Tap roots are so called from their usually tapering form. In some plants the tap root is well developed, in others it is not distinguishable. Lateral roots spring from the tap root, often at regular intervals. Adventitious roots are usually unbranched, and grow from primary or secondary roots, underground stems, the base of cuttings, and trailing and climbing stems as the Strawberry and Ivy. Roots are sometimes enlarged to form stores for food substances. These enlargements are named according to their shape. In the Carrot and Parsnip we have the conical tap root, the Radish is fusiform or spindle-shaped, the Turnip napiform, the Dahlia fasciculate, terrestrial Orchids tuberculate.—Wm. R. R.

(To be continued.)

Gadding and Gathering.

"HERE AWA', THERE AWA'."

Crocuses in the Parks.

I say parks, but the only two London parks known to me to possess any show of Crocuses in the grass in a naturalised fashion are Regent's Park and the pretty little Ravenscroft Park. Mr. Jordan, of the former, was the pioneer of bulb naturalising in the London district. I had thought that the authorities of the Royal Gardens at Kew were the leaders of this phase of English spring gardening, but on no less authority than that of Mr. Willie Barr, of Long Ditton, I recently heard that the honour belongs to our old friend Mr. Jordan. In that most delightful park, with its handsome Elm and Chestnut trees, its lawns and its pools, there is the additional glory in March and April of thousands of white, yellow, and purple Crocuses strewn, or seemingly strewn, everywhere in winding sheets beneath the shade and shelter of the trees and the shrubs. The yellow Crocuses literally glitter like fields of Buttercups in summer, and the purple-blue of *C. banaticus* (?) furnishes a pleasant contrast. How magnificent it is to see these wonderful masses of brilliance and beauty covering and enswathing, as they do, the darkest and most dismal corners where the grass cannot even find light and moisture enough to grow well. There has been a tendency to mix the three colours during late years, and most assuredly the practice is harmful to the development of the best effect. If anyone should have a grip of, and sense for, the finest colour harmonies it is the park superintendent and the gardener. Purple and yellow go well together, or a preponderance of purple with white. The latter and yellow also contrast satisfactorily, but the colour sense feels a violation when white, yellow, and purple are mixed in nearly equal proportions. In massing of floral colours there should either be a good contrast of two colours in juxtaposition or a pleasant harmony of colours that closely match. As a general rule I prefer harmonies rather than contrasts, though an overdose of "harmony" is apt to pall upon

one, and the judicious introduction of a bold and good contrast sharpens the critical faculties. Restfulness is the characteristic aimed at by those who adopt the one-colour mass, while a quickening or reactionary impulse is conveyed to the sense of sight and colour when contrasting shades are viewed. The question arises that, This being so, would not a medley mixture of colours act in the same manner on the sense of sight that a discord in music does to the sense of hearing, which is to sharpen its perceptions and prevent inaccuracy or insipience? Probably so; but a discord in music soon passes out of mind, whereas a discord in colours remains persistently for weeks or months.

Mr. Peter Barr.

While writing of Long Ditton and the Peter Barr Daffodil, it may be of interest to some of my friends to learn that the veteran gentleman is still happy and very busy. I received a letter from him a few days ago, dated from Cape Town, in which he tells me a great deal about the war, but very little in regard to horticulture. South Africa is at present very prosperous, and Cape Town, he says, is a sample of the whole. It is the busiest and most moneymaking place Mr. Barr has visited on his travels. He is endeavouring to learn what the future possibilities of South Africa are when the diamonds are all collected, and the gold all crushed out, and the only asset is the land. He has contributed two papers to the Sea Point Horticultural Society on Lilliums and Daffodils, and has another hatching in his mind on Irises. Whether it ever becomes "hatched" depends, he says, on the war!

Barr's of Long Ditton.

A showery day while at Long Ditton recently drove me under glass, and there I saw long beds of Dahlia tubers sprouting into growth, these in turn being severed to be rooted for cuttings. The collection embraces the best of the double Cactus varieties. I was also delighted to view the new trumpet Daffodil named Peter Barr, and most worthy is this flower to receive the patronymic of he who is the Daffodil King. We will figure a specimen bloom very shortly, whence its form and character, at any rate, can be judged by all the readers of the Journal; but beyond the handsome form, it is unmistakeably distinctive in colour—an ivory-white perianth, and palest primrose or sulphury corona. But as the bulbs are not yet offered in commerce, it will be time enough to write at great length about it in another season. I saw a beautiful Leeds variety, as I presume it was, named Mountain Maid, almost the same colour as the Peter Barr, but in shape more like the Eucharis Lowi than any other Narciss I have hitherto seen. It possesses a graceful drooping habit, and is quite an acquisition. Sensation is another of the newer Narcissi, one of the Barri section, with large, pure white perianth, and a handsome, open cup, margined with orange, generally producing two blooms on a stem, and is otherwise free-flowering. This, in time should prove a great favourite, and during the coming season note should be made of it. The incomparable Gloria Mundi was also seen in good condition, alongside the pretty N. cyclamineus (which was also flowering bravely on the rockery), with triandrus calathinus and N. t. albus.

It may not be generally known that there is a pink Roman Hyacinth with the early flowering proclivities of the section. This pink variety is named Rosetti. The spikes are larger and longer than the white Romans. Dog's-tooth Violets (Erythroniums) grown and flowered in pots furnish splendid decorative material for conservatories early in March, and the question arises, Why do gardeners not attempt to make use of them for this purpose? Writing of the pink Roman Hyacinth also brings to mind the pink form (rosea) of Chionodoxa Luciliae. It is quite pink and very sweet, though, of course, the blue and white of C. Luciliae is more charming.

In the open ground numerous workmen were diligently planting the Gladioli corms, and in an open brake in one of the nursery sections a railed-in space prompted me to inquire its purpose. Within this "hurdled," or railed, space are the Pæonies, whose yet tender growths are covered over on the top with coarse heather. The reason of these outward protectives is to ward off the cold ground winds, which are known to work considerable havoc. Other plants of interest and value on account of their earliness in flowering were the Anemone Hepaticas in colours red, white, and blue respectively, some of the varieties being double, some single. The pink A. H. angulosa is a delightful little plant, and one that is not too common; nor is angulosa alba. Saxifraga apiculata, S. sancta, and S. Boydi were all showing well; and the dark, shining leaves of Galax aphylla were attractive even at this season. The Scillas and Crocuses had suffered from the rain, but one could not but admire the beauty of Scilla bifolia and its varieties alba and rosea. The white S. siberica, though plainer than S. b. alba, is, nevertheless, quite a gem. S. amoena is early flowering and distinct.

Violas at Tamworth.

The Viola season has not yet opened, nor will it for about six weeks more. However, I recently received a letter from

Mr. William Sydenham, the renowned cultivator of these brilliantly flowering little border plants. This letter tells me (and I transmit its information for the benefit of the practitioner) that last year there were 150 beds at Tamworth, each of which contained two dozen plants. From early in May till the end of September Mr. Wm. Sydenham, accompanied by his two head men, were wont to stand at a certain point of vantage overlooking the beds each Saturday or Sunday morning, and note on each occasion which twelve or thirteen varieties showed the brightest and to the most advantage as bedders. Marks were accorded to each by the three witnesses, and the varieties came out at the end of the season in the following order:—

- 20 Councillor Waters, dark purple.
- 20 Seagull, white.
- 20 Nellie Riding, yellow.
- 19 Skipjack, fancy bronze.
- 19 Mrs. H. W. Bennion, pinkish purple.
- 19 Ralph, grey blue.
- 19 White Beauty, white.
- 19 Blanche, cream white.
- 19 J. B. Riding, mauve.
- 18 Mrs. Gerald Moor, black purple.
- 18 John Quarton, light mauve.
- 18 Golden Queen, dark golden yellow.
- 18 Leda, cream edged purple.

No better Violas exist (for colour) than the first three on the list. The whole of the thirteen are, however, very reliable sorts, and growers would do well to make careful note of them. At 10s. per 100, carriage paid, good plants are cheap. When the beds are again in the full beauty of their rich colours I hope to go to Tamworth and enjoy their glories.

Hippeastrums at Chelsea.

Synchronously with the advance of the earlier Hyacinths and Daffodils come the Hippeastrums (Amaryllis), the most noble of indoor flowers that bear the sun and shade of April; and all of those who have the opportunity and are within hail of Messrs. J. Veitch and Sons' nursery at Chelsea make a visit to this collection, undoubtedly the finest trade show in the three kingdoms; and those who view the plants in the splendid span-roofed house that for years past has been their flowering quarters, will do so for the last time there, as the work of demolition of one-half of the nursery has already commenced.

After this year most of the Chelsea houses will be utilised for show purposes rather than for raising and cultivating plants in. The corridor leading from the Fulham Road into the central walk of the nursery is now filled with beautiful clean Palms in place of the old Camellias that formerly occupied the borders. But this is prophesying; and for the present it is the Hippeastrums that call for notice. Notwithstanding the fact that each year sees the cream of the Chelsea seedlings drawn off to other collections (mostly private) in the country, there are always an interesting crop of novelties presented as spring follows spring.

Since the lighter coloured varieties have been so frequently called for in place of the crimson and red-hued selfs, it is but in accordance with reason to discover a very large percentage of the "whites," white and reds, and pinks among the galaxy of flowers now at their best at Chelsea. It has been referred to before, and may once again be, that the plants are grown in 5in and 6in pots, which are plunged to the rims in a bed among tan-bark. A flow of hot-water pipes are situated beneath this bed to maintain the desired warmth, and in tan-bark the heat diffuses readily. A very considerable difference was evidenced in the growth of perhaps three dozen plants plunged in sawdust instead of in tan. The scapes were both puny and much later than their vigorous neighbours, to whose roots the heat, air, and moisture could more readily penetrate than in the case of the sawdust section.

From amid the throng of over a thousand plants some names were chosen (and I don't know where Mr. Heal obtains his names from, but they are exceedingly classic), and with slight descriptions of the varieties they designate, are as follows:—Nysa, a variety remarkable for the great depth of its rich dark crimson, and which received an Award of Merit on April 8. The same was accorded to Sylvanus, a flower with plenty of substance, somewhat netted with white, towards the outer parts of the segments, on a bright, scarlet-crimson body-colour. Otys has a white edge, with white beams in the centre of each segment, and is otherwise coloured crimson. Lady Buller is remarkable for its size, being 9in to 10in across either way. The edge and the veins are crimson, the rest being white. Isara has a longer funnel than most, and rosy-pink veins on a white underlay. The Veldt, a combination of green and brown, is, I fear, already "out of stock," through having passed into other hands. In Melas we have a large-flowered and robust Hippeastrum. It has a white edge and rosy centre; very attractive. Cecilia when at its best is a charming flower, with wavy edges and an enormous amount of substance in its segments, and the colouring is superb—pure white, with bright rosy-carmine veins. Megara is white, with reddish veining; while in Phoebus the beams, or main, central

vein is greenish, with broad red bands on each side, and paler red throughout the rest of the surface. Rhenea, though not of very good form, is exceedingly showy, being brilliant vermilion. Perle, with white beams, has maroon veins on a white ground, and is distinct. Olympia is shaded crimson-scarlet, and very large. Her Majesty, one of the older ones, is almost pure white, with reddish veins; a handsome flower. Major Wilson presents the scarlet colour of a soldier's tunic; Vectones is rosy-scarlet; Sybaris, nearly all white, with a few pink veins; The Champion, of enormous size, is scarlet-crimson. Resius is another of those with a wavy white edge and dark crimson flakes throughout. Nitocrus is glowing crimson-scarlet; Syros, with good stiff form, has white beams, and is rosy-red otherwise. But one might go on ad infinitum. It is really remarkable to observe the enormous size of the scapes, and the quantity and robustness of the foliage, from such comparatively small bulbs. It goes to prove how very ably the plants are nursed and cared for from the day of sowing the seed on through each successive season of the vegetable existence.—WANDERING WILLIE.

Planting Vines.

The month of April, being the time when Grape Vines start naturally into growth in this country, even in cool houses, is a very suitable period for planting Vines, especially under glass, to which the following remarks have particular reference.

Borders.

The rooting medium, called borders, may be partly within and partly outside the house, planting the Vines inside. For early forcing the borders are preferably inside, and internal borders only are best for Muscats. When the Vines are only required for producing summer Grapes, the borders may be wholly outside, this applying to greenhouses and other cool or even cold houses. In cases where the substratum is of a wet or unsuitable nature the border should be concreted at the bottom, this being unnecessary where gravel or rock occurs. Proper drains and outlets must be provided, and 1ft thickness of rubble about the size of half bricks at bottom and getting lesser in size upwards to that of road metal at top. This drainage is best covered with a layer of old mortar rubbish, free from pieces of wood, about 3in in thickness. Thirty inches depth of border is ample. Good turfy loam taken from an old pasture about 3in thick, where the soil is of a friable nature and preferably of the old or even new red sandstone formation, is the most suitable main ingredient for a Vine border. To this, chopped up into pieces as square as cut thick, not rejecting the small, may be added a fifth part of old mortar rubbish, a tenth of wood ashes, a twentieth of "nuts" of charcoal, and a fortieth of crushed $\frac{1}{2}$ in bones. Well drained and fertile garden soil, however, will grow good Grapes, mixing 5cwt of basic slag phosphate and 3cwt of kainit with 28 cubic yards of soil or border 30ft by 10ft and 2 $\frac{1}{2}$ ft deep. Six feet width of border will, however be sufficient to commence with.

Planting.

The Vines, having been cut back in early winter and kept in a cool house, will now have the buds grown to a length of a couple of inches, this being desirable at planting time. Turn them out of the pots, remove every particle of soil, preferably by washing, carefully preserving the fibres. Spread the roots out straight as may be and flat, the soil of the border having been raised to the required level, covering the roots to a depth of 3in or 4in, working the soil well amongst them with the hand. Give a good supply of tepid water, and mulch over the roots and a little further with about an inch thickness of short sweetened litter. If the canes have not been shortened it will not do to prune them now, but remove the buds from the upper portion down to where fresh growth is required to push, and cut away the disbudded part when the Vines have made some leaves, as there is then no danger of bleeding.

After Management.

Sprinkle the Vines and house twice a day, but avoid a close and saturated atmosphere. A temperature of 55deg at night, 65deg by day, and 70deg to 75deg with sun is suitable for a time after planting. If the weather be bright and the panes of glass large, shade lightly from 9 a.m. to 2 p.m., when the house should be closed, damping the floor, border, and other surfaces. If the temperature run up to 85deg or 90deg it will be an advantage. When the Vines commence growing give every encouragement, increasing the temperature to 60deg to 65deg at night, 70deg to 75deg by day, and 80deg to 85deg or 90deg from sun heat. Young Vines of this year's raising may be turned out of the pots with the balls entire, or being in turves, which is the better plan, the soil should be well firmed about them, so as to secure a fibrous root formation, and the house be kept at the temperatures last named.—VITIS.

Old-time Gardening.

(Continued from page 160.)

It has frequently been contended that largely owing to the Wars of the Roses, and the resulting generally unsettled state of England, gardening during the fifteenth century was in a state of collapse, its revival taking place only at the dawn of the Reformation. Hollinshed, indeed, would have us believe that a vast hiatus, embracing all the time between the Third Edward and the Seventh Henry, marks the history of gardening in England; and Hadyn, to prove the beggarly condition of horticulture at this period, states that many of the vegetables required were imported from the Continent. This statement need not be doubted, because, as a matter of fact, at no time do we seem to have been able to cultivate as many vegetables and fruits as the consumer demanded. How grossly, for instance, would the future historian err if, trusting to the tables of our imports to-day, he was to conclude that the beginning of the twentieth century was remarkable for its lack of home-grown garden produce. Might he not be pardoned for even doubting the existence of gardens at all?

The Fifteenth Century.

Unfortunately the means of either confirming or of negating these statements are of the most meagre description, but such as they are, they do not corroborate the general historian, whose notes on gardening are too frequently marked by inaccuracy. Could anything be wider of fact, for instance, than Hume's statement, which has been quoted and requoted, that till the end of the reign of Henry VIII., no salads, Carrots, Turnips, or other edible roots were produced in England. Or, take the dates of introduction given by D'Israeli and others of various fruits and flowers. If we accept these as correct, we are perforce shut up to believing that old cookery books, medical works, &c., refer to plants which did not exist in England! A somewhat racy poem, called "The Libell of English Policie," written previous to the middle of the fifteenth century, which urges the necessity of maintaining the mastery of the sea, as then known, and of keeping a fast grip of Calais, Wales, and Ireland, contains lists of the products of various countries with the commodities imported by England. Among the latter are Figs, Raisins, Dates, Pastel, Saffron, Madder, Garlick, and Onions, not a formidable quantity by any means.

On the other hand, "The Feate of Gardening," of about the same date, contains a lengthy list of vegetables, and what are wanting therein, such as Parsnips, Turnips, Carrots, and Rampions are found in contemporary cookery books. A salad of the period, it may be of interest to note, included buds of Primroses and of Smyrnium olusatrum, the young tender tops of red Fennel, a form with dark coloured foliage, red Mint, and red Nettle, a cultivated kind with reddish stems: Parsley, perhaps the roots, Chives, Cress, Purslane, Ramsons, Calamint, Daisies, Rampions, Rockets, Dandelion, and Chickweed. Russel's "Book of Nurture," about 1460, supplies much information on this point. Dinner was prepared for thus: "Quynces, with Peres cyppe, with Parcely roots, Right so bygyn your mele." The first course consisted of "Suche potage as the cook hathe made of Yerbis spice and wine," along with a great variety of meats. Fruit was the fourth course, and comprised "whot Appuls with Peres, with sugre candy, with gyngure columbyne mynsed manerly." Columbine here defines the ginger as dove-coloured, and is not the plant of that name. But at dinner these, too, were consumed: "Fygges, Raysons, Almondes, nottus, Apple, Pere, and Clare de Quynce." How particular they were as to how and when certain kinds of garden produce were to be eaten appears from the following: "Serve fastyne, Plommys, nottus, Strawberies, Wyneberies (probably Gooseberries), and hard chese, blawndrilles, peypns, careway in comfit."

Parkinson notes "The Blandrill as a good Apple," and Cotgrave states, it was large and white. Then they were to eat "After sopper roasted Apples, Pere, blanche Powder your stomak for to ese." As a caution they are told to "beware of Strawberies and Hurtillberies at eve." Of vegetables, the Pea seems to have occupied a chief place, and is referred to several times, as for instance, "Pesen with bakon," "pesen with the purpose," "to pesen or furmentye, take the tayl of the bevere." "Wortus," here a general name for vegetables, were cooked "with a henne, cony, beef, or els an hare." How to prepare a medicinal bath brings many plants, such as the Hollyhock, the Mallow, brown Fennel, and St. John's Wort into view; but perhaps it is needless to quote further, as gardens could have been neither non-existent or uncultivated with these demands to be met. The London citizens, moreover, still continued fond of gardens, a paragraph in Stowe's "Survey" noting the destruction of all the gardens "without Moorgate" in order to make an archery, proving this. This vandalistic act, may I call it, happened in 1498.

At the same time, as we gather from one or two poets who flourished at this period, there was a change taking place in the simple, unaffected methods of an earlier date, and a more ornate style of gardening creeping in. Thus Skelton, a man who must have

possessed an exact knowledge of every phase of high-class life existing in his day, depicts the "herber" ("Garlande of Laurell"):

With alys ensandid about in compas
The bankis enturfid with singular solas,
Enrailed with Roses and Vines engrapid,
It was a new comfort of sorrow escapid.

Here we have the simple "herber" of former days isolated by encompassing walks, and clothed with flowering Roses and Vines in fruit. Hawes' "Pastime of Pleasure" of a little earlier date, presents a flower garden extremely florid and artificial. This garden:

was paynted and wrought curiously,
In dyvers knottes of marvaylous gretenes,
Rampande Lyons stode up wondrously
Made all of herbes of dulcet swetenes,
With many dragons of marvaylous likenes
Of dyvers floures made ful craftely,
By Flora coloured with colours sundry.

It also contained "an herbere fayre and quadrante, set all aboute with flowers fragrant," as well as a dulcet spring and a fountain painted blue and gold. Churchwardens' Accounts, many



Schizocodon soldanelloides. (See page 348.)

of which exist, come into the range of this section of the subject, and prove that vast quantities of flowers were required at particular church festivals, one of the chief being Roses, which were largely employed for making the garlands worn by the clergy. Torches were also decorated with flowers.

During this century, too, the Kings of Scotland endeavoured to bring that country into line with England. James I., as Fordun states, taught his subjects such intricate problems in horticulture as grafting, with other methods pursued by English gardeners. He, moreover, passed a law to compel the owners of a plough and cattle to plant annually a firloft (2 bushels) of Wheat, half the quantity of Pease, and "forty" Beans. This law was re-enacted by his son in 1453, who added to it another requiring freeholders to plant woods and trees, to make hedges and plant Broom. Yet another Act of this year ordered the destruction of rooks in orchards and other places.

James III., as Pitcottie remarks, was fond of laying out gardens; and James IV., in 1503, was obliged to enact a law against "breakers" of orchards and gardens, and it was ordered that those "lords and lairds" who hitherto had not moved in the matter should "make them to have parkes of deare, stancks (fishponds), cunninggars (rabbit warrens), doweccotes (dovecots), orchards, hedges, and to plant at least one aicker of woods." Hundreds of extensive parks had already been enclosed in England and tenanted by deer, and rabbit warrens also instituted.

A delightful description of a garden was written by a Scots bishop, Gawain Douglas. The language, unfortunately, is frightfully Archaic, and defies transcription, otherwise it is as fresh and natural as that of Hawes is dull and stilted. Ivy grew

rankly on the castle wall, and Vines were trained on trellises. Flowers were of many colours, some pink, others burnet, blue, grey, red, purple, blood, brown, yellow, sky-blue, sea-blue, gold, or freckled red and white. Gold-cups, Camomile, Iris florentina, Hesperis matronalis, Columbines, Strawberries, Gilliflowers, Primroses, Violets, Roses, and white Lilies, are some of the plants. Poultry wandered among the vegetables, picking up their food along the alleys. There, too, the painted peacock unfolded his tail. Endless birds worked crafty nests on the trees, each one rejoicing with its mate, while under the trees in the park, close of pales, bucks, harts, red hinds, and dun does, with calves and fawns, wandered or played.

In 1513, the time this was written, 300 Apples cost in Scotland 6s., sufficient Saffron for Christmas a like sum, and Onions were 3d. per lb.—B.

Notes on Hardy Flowers.

Primula megaseæfolia.

The appearance of this *Primula* at one of the R.H.S. meetings in the course of last spring, and the publicity given to it by the notices and illustrations in the horticultural press, have made many hardy plant growers interested in such a distinct-looking Primrose. I had received a plant from the introducer, Mr. C. Sprenger just a short time before Miss Willmott showed her plant; but mine had rather suffered in transit from Italy, and the flowers it had formed had not expanded, the scape decaying before the flowers could open. Late in autumn, however, my plant, then growing in a shady and moist place, began to give me some of its pretty purple flowers. Unfortunately the weather was very unfavourable for winter blooming plants outside, and one was grieved to see that it could not display its bloom to advantage, as they fell victims to the various vicissitudes which await such things when frost and rain are alternately striving for the mastery. So far as the winter has gone, it is, however, standing the frost quite well, and as this is written it is snug under snow, and so is likely to pass safely through a most trying season unprotected otherwise. It is, I should say, a better plant for a cool or cold house or a slightly heated frame than for the open air in a season such as this has been. It is a most distinct Primrose, with its rounded leaves reminding one of the *Magaseas*, which feature has given it its specific name of *megaseæfolia*. This has two variants—*megaseæfolia* and *megascifolia*—but the other is the spelling of the "Index Kewensis." I understand that the stock which has been introduced comes from Persia, but the plant is said by Boissier to grow near Rhizeh in moist, shady gorges, where it flowers in May. I am in hope that I may have a second bloom from my plant when spring fairly comes in.

Lilium pardalinum.

I doubt much if the Lily Conference of the Royal Horticultural Society excited as much interest among the fraternity of gardeners as its promoters desired, and had a right, it may be, to expect. Still, it has had the effect of again holding up the banner of the Lily, and, if it had done nothing more, would have repaid the trouble and expense by being the source of the most valuable information embodied in the Journal of the Royal Horticultural Society. A Society which can produce such a work as this is deserving of the support of all interested in flowers. Yet, when all is said, the *Lilium*, as a whole, does not occupy the place in gardens it ought to do, and one thinks no apology is needed for speaking of the variable, but effective and beautiful, *L. pardalinum*, or the Panther Lily, as it is called. Its hardiness seems unquestionable, and it is probable that the failures with it are mainly due to want of proper moisture at all seasons. In some gardens, with rather heavy soils, it can be grown in the ordinary border; but it requires plenty of moisture to do it justice, and its proper place seems to be by the stream or pond, or in a peaty bed, specially prepared, where it can be kept moist at all times when required. My garden, with its dry subsoil, is one of the last places one would expect *L. pardalinum* to do in; but it is doing well, although this is, I am certain, due to the special conditions under which it is grown. It is planted on the cement "shelf" at the side of a small aquatic pool, where it is in wet, rather than moist, soil. The soil is but shallow, and in some places the bulbs are just covered with soil above, and are almost touching the concrete beneath. In this position it has attained from strong bulbs as much as upwards of 5ft in height, and has increased rapidly at the base, so that were it to be lifted now the increase of bulbs would be remarkable. It is just, however, under these conditions of moisture that it grows best at home. *Lilium pardalinum* is very variable, and several varieties have been given names. One often, however, meets with a good form procured under the name of the type, although that known as *Bourgæi* is a fine one. It is handsome, as all the forms are, with their yellowish-red or deeper red flowers, recurved at the tips, and plentifully spotted with purple.—S. ARNOTT.

***Lopezia miniata.***

This is a plant not commonly seen, but interesting on account of its mechanism for cross-pollination. The one perfect stamen is held in tension by a folded, leafy, or expanded staminode below. On this part the insect alights, as the best position from which to reach the two drops of honey that seem to rest upon the knee-shaped bend of the upper petals. The result is that the stamen is released and pollen is dusted upon the insect. Self-fertilisation is impossible on account of marked proterandry. It was shown before the Scientific Committee on April 8, from Cambridge.

Codiaeums at Oldfield.

Recently, whilst visiting the Oldfield Nurseries of Messrs. W. Clibran and Sons, of Altrincham, I was shown a fine batch of *Codiaeums* (Crotons) of the firm's own raising. Among other attractive varieties, I noted two in particular, named Golden Chain and Pride of Oldfield, as being really first class. The first-named is a model table plant, being of graceful habit, a fine bright colour and a good grower; the leaves are narrow and from 12in to 18in long. In *Pride of Oldfield* the foliage is occasionally interrupted, and very prettily mottled yellow and green. As a table plant for house or show purposes I can strongly recommend the first-named variety.—T. SEE.

Schizocoden Soldanelloides.

It is years ago since Captain Torrens showed this little alpine plant at the Drill Hall and obtained a First Class Certificate for it; yet so slow is its growth, that still very few plants are in gardens. The rockery at Kew has one nice plant of it, but great care is necessary to secure its continued healthy growth. It was brought by Captain Torrens from Miganoshta, Japan, in 1891. In the characters of its foliage and flowers it much resembles *Shortia galacifolia*, now in flower, but its pretty, fragile blooms are rosy instead of white, and the segments are deeply lacinated. It has proved hardy, but, as we say, it grows slowly, and does not seem to yield seeds freely. A figure is presented on page 347.

Campanula pyramidalis.

A few notes on the cultivation of the above may prove interesting to some readers of the Journal. For flowering in July of next year seed should now be sown in mild heat, and when ready prick off into boxes and grow on in cold frames, and when large enough pot into 3in pots, repotting later into 6in. When damp weather sets in in late autumn transfer to vineries or other dry quarters, finally shifting in March into 8½in pots for flowering, using a compost of loam, leaf soil, horse droppings, lime rubble, sand, and a dash of Clay's fertiliser, and as soon as the weather is suitable stand in rows outside. Some make it a practice of growing for two years or more before flowering, which is quite unnecessary, better furnished plants being obtained by adopting the above plan.—T. S.

Peach Leaf Curl.

This is a much more serious injury to the Peach tree than is generally supposed. Few of us suspected that we were losing much from Peach curl except a portion of the current year's fruit crop, but Pierce, of California, has proved that we lose also in the growth and vigour of the tree, and the development of fruit buds and fruit spurs. For example, on ten trees sprayed in 1893 there was an average of about 2,800 fruit buds per inch of old wood, and on those unsprayed about 2,600, or a difference in favour of the sprayed trees of about 7 per cent. Besides this, he found a great many of the fruit buds produced on the sprayed trees so poorly developed that no fruit could be expected from them. For example (says the "Canadian Horticulturist"), at the close of the season of 1893 he found the average number of imperfectly developed fruit buds on the sprayed trees to be 0.944 per lineal inch of old wood, while on the unsprayed trees the average per inch of old wood was 1.249; or 32 per cent. more imperfect fruit buds on the unsprayed than upon the sprayed trees.

Early Forced Figs.

Early Violet and St. John's are now being succeeded by the Ischias brown and white, Angelique and Osborne's Prolific, and the very fine White Marseilles and Brown Turkey. To secure perfect ripening and high quality, watering must be gradually reduced and syringing over the trees cease, but trees swelling their fruit should be assisted with weak liquid manure twice a week, and the foliage kept clean by syringing at closing time, this being discontinued directly the fruit gives indications of ripening. A temperature of 60deg to 65deg at night, 70deg to 75deg by day, advancing to 80deg or 85deg from sun heat, is suitable, closing so as to increase to 90deg or more, but air must be admitted so as to allow the pent-up moisture to escape, and prevent the deposition of moisture on the fruit, which, settling on the apex, is apt to cause it to decay. This, usually called "spot," should be avoided by a circulation of rather warm and moderately dry air.—G.

Forced Planted-out Figs.

In encouraging surface roots and supplying nourishment not likely to induce grossness, a mulching of sweet, decayed, lumpy manure, about 1in thick, is of essential service. Such mulching, if kept in a moist state, and added to from time to time as reduced, will be full of active feeders by the time the trees need most assistance in order to perfect their crops, and substantial food, such as dissolved bones five parts, nitrate of potash two parts, and gypsum 1 part, mixed, using 4oz. per square yard every three or four weeks or more distantly, according to circumstances, will secure sturdy growths (other conditions being favourable), and good results in the first and second crops. Trees in borders of limited extent, and those of short-jointed fruitful habit, will require copious supplies of water or liquid manure. Syringe twice a day in bright weather, occasionally in dull, and maintain a genial atmosphere by damping. Ventilate freely in favourable weather, with the object of securing stout growth and leathery, healthy foliage. Any kind of shading is injudicious, and must be guarded against by thorough cleanliness, pinching out the young growths and thinning out all the overcrowded shoots. Maintain the temperature at 60deg to 65deg at night, 70deg to 75deg by day, advancing to 80deg or 85deg from sun heat, closing early with abundance of moisture, so as to run up to 90deg on fine afternoons.—P.

Succession Houses of Figs.

Disbudding or thinning the growths, regulating the terminal and successional shoots, and stopping those for spurs at the fifth leaf, must have timely attention. Afford a light mulching, and feed as advised in the preceding paragraph, according to requirements. Maintain the night temperature at 55deg to 60deg, 65deg by day artificially, 70deg to 75deg from sun heat, which ought not to be exceeded without full ventilation, as it is very important the growth be stout and the foliage have good clean substance. When the trees are in full leaf the night temperature should be maintained at 60deg to 65deg, 70deg by day, allowing to rise to 80deg or 85deg from sun heat, closing early, so as to run up to 90deg, and with abundance of moisture.

LATE OR UNHEATED.—These afford one crop of fruit in August when of midseason varieties, or the very early ones two crops. The trees must have attention in pruning, thinning the less fruitful growths and the old and bare, so as to afford space for the successional, avoiding overcrowding, as it is necessary the growths have abundance of light and air. Allow the shoots for bearing to grow somewhat loosely, with their points to the light. Stopping must play an important part in cool houses. Pinch at the fourth or fifth leaf on the young wood, which will assist the swelling of the fruit and induce the trees to break and produce short-jointed wood from the base of those in bearing. Ventilate freely at and above 50deg, advancing to 65deg from sun heat. The border should have a thorough watering if dry, repeating as necessary, to bring it into a thoroughly moist condition, afterwards mulch lightly with short manure. Fig trees in unheated houses do not require nearly so much moisture as those in heated houses, but an occasional damping will be necessary to maintain a genial condition of the atmosphere, ventilating freely on all favourable occasions, especially in the early part of fine days, so as to secure sturdy, short-jointed wood and well developed leathery foliage.—GROWER.

Societies.

Royal Horticultural—Scientific Committee, April 8th.

Present: Dr. M. C. Cooke (in the chair); and Messrs. Hooper, Gordon, Odell, Druery, Bowles, Douglas, Worsley, Holmes, Bennett-Poë, Rev. W. Wilks, and Dr. Masters.

Violet-leaf Disease.—Dr. Cooke reported as follows on the specimens sent by Colonel Spragge: "Many of the leaves of the Violets exhibited were in a bad state, the tissue being entirely bleached and dead, but not in interfoliary spots, as in *Phyllosticta* and *Septoria*, but marginal, extending inwards until the greater part or the whole of the leaf is involved. It was the opinion of some of the members of the committee that this bleaching was the result of external circumstances, and not from the attacks of any parasite. With this view I am disposed to agree. The mode of attack is not that of the American disease (*Alternaria*), of which I failed to find a single spore. All the spots were occupied by tufts of a black mould, which at present I am inclined to think must be saprophytic, appearing subsequently on the dead tissue. They do not appear upon the leaves beginning to fade, only on the quite dead spots. These moulds are of two kinds, and both belong to genera in which the species are wholly saprophytic, it being the exception, in some few cases, for them to become parasitic. The fungus appears in small, dark olive tufts scattered over the dead tissue, and in no case becoming confluent, and spreading in patches. The earliest form to appear is a *Cladosporium*, which certainly is not *Cladosporium herbarium*, nor does it appear to be *Cladosporium epiphyllum*. The threads are slender, unbranched, septate, and of a pale olive, not nodulose or torulose, and rather long for the genus (120 to 150 by 5 μ). The conidia, as usual, are at first continuous, afterwards uniseptate, then biseptate and triseptate; so that in the same tuft one may find conidia with no septum, and others with one, two, or three, in all cases narrow, and but little thicker than the threads (18 to 30 by 6 to 7 μ). The other form, which appears mixed with the foregoing, is a *Macrosporium* of the type of *M. sarcinula*, with delicate, deciduous threads and somewhat cubical conidia (30 to 35 by 25 to 30 μ), truncate at the ends, and but slightly constricted. The septa, longitudinal and transverse, divide the conidia into quadrangular cells, mostly in three irregular rows, and of a darker olive-brown than appears in the *Cladosporium*. Unfortunately, I have not seen a description of the Italian *Macrosporium Violæ*, which has the reputation of being a destructive parasite on Violets. It has been demonstrated that there is some close affinity, or relationship, between *Cladosporium* and *Macrosporium*. They are often found together, and in some cases have the reputation of being the *Microconidia* and *Macroconidia* of some species of *Pleospora*, bearing muriform sporidia contained in asci. I can only repeat that I do not think these moulds are the cause, but the consequence of the disease. N.B.—Since writing the above I have seen description of the Italian pest, *Macrosporium Violæ* (Poll.), and it is certainly not the same as the one I have described; since, in that species, the spots are definitely orbicular and regular, and the conidia are clavate, and attenuated at the base (40 to 90 by 10 μ), not at all resembling these described above, which I must still, in default of better evidence, regard as a saprophyte."

The Metropolitan Public Gardens Association.

At the monthly meeting of the Metropolitan Public Gardens' Association, held at 83, Lancaster Gate, W., it was stated that Lord Meath had prepared a paper on "Open Spaces and Physical Training," to be read at the approaching conference of the Manchester and Salford Sanitary Association, and it was agreed to accept the invitation of the Sanitary Institute to read a paper on open spaces at the Congress to be held in Manchester in September next. A letter was read announcing that the appeal of the Hearts of Oak Society against the decision of the London County Council refusing permission to build on certain forecourts in the Euston Road had failed, and this was considered very satisfactory, as the association had constantly urged the great importance of preserving the open character of this and similar roads, in spite of past encroachments, by means of these forecourts, which could in the future be converted into continuous boulevards when no longer required as private gardens. A resolution was read, which had been passed on to the London County Council, against the proposals of the Charing Cross, Euston, and Hampstead, and Edgware and Hampstead Railway Companies to construct a number of tubes under Hampstead Heath. It was decided to oppose any proposals of the Patriotic Fund Commissioners for selling or building on land formerly part of Wandsworth Common which they no longer required, and which it was strongly felt should be restored to the common. It was agreed

to offer to lay out St. John's, Stratford, and St. George's, Bloomsbury, churchyards, and to take steps to oppose building schemes on Holy Trinity, Stepney, and St. James's, Clerkenwell, churchyard, as contrary to the Disused Burial Grounds Acts. Protests which Lord Meath had received were read against the cutting and clearing operations that were taking place at Burnham Beeches, and requesting that steps should be taken to prevent this beautiful wood from being subjected to further acts of vandalism, and it was decided to draw the attention of the Lord Mayor and the Corporation to the matter, and ask them to institute a thorough inquiry. A number of interesting proposals for preserving and improving various open spaces included St. Peter's Square, Hammersmith, some squares in Stepney, Goldington Crescent, N.W., vacant sites in North Fulham, Clapton, Dulwich, and Islington. A letter was read from Lord Hobhouse cordially approving of the suggestions which Lord Meath had made public that Coronation memorials should, if possible, take the form of the provision of lands for public enjoyment or the planting of trees. Progress was reported with regard to tree planting in Shoreditch, Norfolk Square, Paddington, and Kensal Rise.

United Horticultural Provident.

The monthly committee meeting of this society was held at the Caledonian Hotel, Adelphi Terrace, W.C., on Monday evening last, Mr. C. H. Curtis in the chair. The minutes of the last meeting were read and signed. Thirteen new members were elected. Two cheques were granted from lapsed members' accounts, one being for £1 8s. 9d. to widow and the other for £13 16s. claimed by lapsed member on reaching sixty years of age. Cheques were also granted for payment of two members' quarterly allowance from the benevolent fund, also for printing and secretary's salary. The secretary produced receipts for amounts granted to the nominees of deceased members at the last meeting. A member asked permission to be transferred from the lower to the higher scale of contribution, which was granted. A letter was read from Mr. George Gordon thanking the committee for their vote of thanks, conveyed to him for his article on the society in "The Gardeners' Magazine" of March 8. It was resolved to commence the committee meetings in future at 7 p.m. instead of 8 p.m.—W. C.

Binfield and District Gardeners'.

The usual fortnightly meeting was held on Tuesday, April 8, in Miss Shaen's Room, Mr. Bungay presiding. An excellent lecture was given by Mr. Neve, The Gardens, Sindlesham, on "Spring Bedding Plants," a very interesting and appropriate subject for the present season. He commenced by mentioning several old and useful varieties, such as Wallflowers in variety, Pansies, Violas, *Doronicums*, Daisies, *Aubrietias*, *Arabis*, *Myosotis*, *Alyssum*, and various bulbs and how to grow them from seed or division. A lengthy discussion followed, in which Messrs. Bungay, Busby, Elsey, Galliford, Haines, Paine, Pottinger, Kimber, and Weavers took part, the lecturer most ably responding to all questions put to him. Mr. Neve was the recipient of a hearty vote of thanks, thus ending one of the pleasantest evenings of this association. At the next meeting, April 29, Mr. Taylor, Lily Hill Nurseries, Bracknell, will give a paper on the "Auricula."

Hailstorm Insurance Corporation.

The seventh annual general meeting of the Nurserymen, Market Gardeners' and General Hailstorm Insurance Corporation, Limited, was held at the registered office of the corporation, 41 and 42, King Street, Covent Garden, on Friday, the 11th inst., when Mr. Harry J. Veitch, the chairman of the corporation, presided. The report of the shareholders showed that the corporation is still increasing its business. In 1896, the end of the first year of the corporation, there were 235 policies in force on 10,408,161 square feet of glass, whereas at the end of the year just ended 952 policies were in force on 31,797,734 square feet. The interest on invested funds, which now amount to £15,620 18s. 3d., is now sufficient to pay $4\frac{3}{4}$ per cent. on the paid-up capital. A dividend was declared at the rate of 5 per cent. per annum, together with a bonus of $2\frac{1}{2}$ per cent. on the paid-up capital, whilst £1,170 was placed to reserve fund and £569 11s. 8d. was carried forward. The chairman stated that, whilst a larger dividend might have been paid, the directors thought it wiser to recommend the building up of such a reserve fund as to prevent the necessity of making further calls upon the shareholders when heavy claims were made on the company. He recalled the fact that in 1897 claims amounting to over £1,500 were made for damage done by a hailstorm in one afternoon, and that these claims would have amounted to a much greater sum had the hailstorm been as violent as that which occurred at Harpenden in 1895, when half the glass on one nursery was completely wrecked. The shareholders present expressed their satisfaction at the satisfactory report, which showed that the corpora-

tion is filling a useful position in the insurance world, and is a great protection to glass owners, who may now insure their houses and contents at reasonable rates.

Reading Gardeners.

At the last meeting of the above association a large number of members was present to hear the chairman of the association (Mr. G. Stanton, Park Place, Henley-on-Thames) read a paper on "The Carnation." In introducing the subject, he said that next to the Rose the Carnation was the most charming and popular garden flower. It had of late years been so vastly improved in variety and constitution that, instead of only two or three months in bloom in summer, we are able in some form or other to enjoy its beautiful flowers and their fragrance all the year round. In dealing with the general treatment of the flower, Mr. Stanton divided his remarks under the following headings: Classification, propagation and culture, uses, faults, insects, and diseases. An animated discussion followed, in which Messrs. Neve, Barnes, Exler, Judd, Wilson, Fry, Powell, Townsend, Galt, House, Hinton, Goodman, Cretchley, Lever, and E. J. Dore took part. The exhibits were exceedingly interesting, and consisted of *Iris tuberosa* and *Fritillarias* from R. H. Hatton, Bill Hill, Gardens, Wokingham; *Prunus Pissardi* and a beautiful piece of *Dendrobium atro-violaceum* from Mr. W. Townsend, Sandhurst Lodge; seedling *Amaryllis*, with twenty-six blooms, from Mr. W. Butler, Fernleigh, Maidenhead; and a grand specimen of *Cymbidium Lowianum* Orchid from Mr. W. G. Pigg, Trevereli, Maidenhead. A hearty vote of thanks was accorded to the lecturer and exhibitors. One new member was elected.

Lecture on Hybridisation at Birmingham.

It may be said without the slightest sense of invidiousness that, interesting and instructive as the dissertations which have so far characterised the spring session may have proved, none were more so than that afforded by Mr. Robert Cock, F.R.H.S., Lecturer on Horticulture to the Staffordshire County Council, on the 7th inst. Mr. W. B. Latham presided. The address, which was given orally, was entitled "Hybridisation, and Plants that have Benefited Thereby." In his prefatory remarks Mr. Cock said that this was his first visit to the society's meeting, and he felt honoured by the attendance of especially so large an attendance of the younger members. He also congratulated the society in being blessed with such an excellent and invaluable library, containing as it does volumes of the best works extant relative to horticulture, botany, &c. Prefacing his remarks on the science of hybridisation, the essayist succinctly expounded the process of fertilisation, assisted by a few illustrations, and he strongly recommended especially young gardeners, to adopt the science of hybridisation and cross-breeding, not only as a pleasing and interesting avocation, but also one that has led to results which transcend everything else in the realm of horticulture. Considering the comparatively short time that artificial hybridising and cross-breeding had been in existence, marvellous were the results obtained. There is still an enormous future for the improvement of our flowers, fruits, and vegetables, and a great opportunity for the hybridist, as in the past, for producing something that might immortalise his name in the domain of horticulture. In the province of the floral kingdom the Orchid and the Narcissus offer a grand field, though it might be difficult to readily obtain another Weardale Perfection Narcissus and prove an El Dorado to its possessor. The ancient Greek and Roman vegetable physiologists knew comparatively little about botany, and were ignorant of artificial hybridisation. It was Thomas Fairchild, of Hoxton, who, scarcely two hundred years ago, produced the first recorded artificially secured hybrid plant. It was neither Sweet William nor Carnation, but resembling both equally, which was raised from the seed of a Carnation that had been impregnated by the pollen of the Sweet William. Fairchild was a commercial gardener or nurseryman, carrying on a large trade. He died in 1729, leaving funds for ensuring the delivery of a sermon annually in the church of St. Leonard's Shoreditch, on Whit-Tuesday, "On the Wonderful Works of God in the Creation; or, On the Certainty of the Resurrection of the Dead, Proved by the Certain Changes of the Animal and Vegetable Parts of the Creation." Fairchild was thus not only the raiser of the first garden hybrid, but the originator of the flower services now popular in our churches. To such as Linnæus, Thomas Andrew Knight (president of the Horticultural Society), Dean Herbert, Charles Darwin, Mons. de Vilmorin, and of our present-day hybridists are we indebted for the splendid and multitudinous hybrid productions populating our gardens. Mr. Cock enumerated many of the varieties of flowers and fruits that had been produced from hybridisation, at the same time acknowledged that numerous of the varieties of fruits of half a century and upward ago, still maintained their excellent qualities, and that some of the Grapes of his boyhood were not to be eclipsed by recent newcomers. The late hour allowed of only a very short discussion following the lecture, and Mr. Cock was kindly thanked for his absorbing theme.

Shirley and District Gardeners.

The annual report of this society shows it to have completed a useful year's work of a varied and interesting nature. Besides the monthly essays and competitions in connection with them, the society had a most instructive and enjoyable outing to Coombe Wood in the summer time, and also visited Hampton Court. The balance-sheet shows a credit of £46 0s. 11d. on the general account, and £2 1s. 4d. on the outing fund. It is hoped that each individual member will take a deeper interest in the monthly meetings, that they will not only come themselves, but bring a friend with them, and so induce others to become active members of the society. The meetings are held in the Parish Room, High Street, Shirley, at eight o'clock on the third Monday in the month, and all gardeners, and amateurs interested in gardening, are cordially invited to become members. Mr. John Miles is hon. secretary. The programme of lectures, &c., from April to September, 1902, is as follows:—April 21: Lecture, "Modern Bee-Keeping," by Mr. J. Miles, 222, Portsmouth Road, Southampton. May 19: Lecture, "Floriculture and Florists of the last Fifty Years," by Mr. Richard Dean, V.M.H. June 16: Lecture, "Culture of Fruit, Flowers, and Vegetables, with the aid of Chemical Manure," by Mr. W. Bushell, The Gardens, Rownhams House. July 21: Lecture, "Stone Fruits," by Mr. J. W. Mitchell, The Gardens, Chilworth Manor. August 18: Lecture, "The Malmaison," by Mr. J. F. McLeod, The Gardens, Dover House, Rochampton. September 22: Open night for discussion.

Young Gardeners' Domain.

Hints for the Coming R.H.S. Examination.

Be in the room or hall for examination in good time, having first cast your mind over all the scope of the sections of horticulture. Thus it will be well to think of the Apple, Peach, Pear, Plum and general bush-fruits in turn, asking oneself questions on the propagation, pruning, training, soils, aspects, and on the diseases, pests, and varieties of each. The action of chemical fertilisers and of the mechanical effects also, of "natural" manures on soils, should be reflected on, and the question of the suitability of certain plants for certain soils will likewise arise. As one or two of the practical questions are generally set to prove one's knowledge of the culture of a genus, it is advisable to know the leading points in regard to the treatment of, say, Cinerarias, Primulas, Chrysanthemums, Auriculas, and florists' flowers in general; the same with vegetables. But as the difference in culture is not great in the case of many of the genera, it is better to know the routine work with one genus thoroughly, and to let that be the guide in answering questions relating to nearly allied plants. Sometimes a question is put asking for the natural order of a number of plants. About a dozen orders may be embraced, and it would be well to know the classification of most of the better-known flowers. When the paper with the questions is handed out, it is of primary importance to read each question carefully before deciding which you will attempt. Having decided, be sure you fully grasp the exact purport, and let your reply be to the point. There is the possibility of being too curt, but the chances are the other way. Write plainly, and endeavour to avoid erasures or alterations.—F. C. C.

Impatiens Sultani (Sultan's Balsam).

This plant is not grown so much as it might be, considering its usefulness for house and conservatory. It is elegant, with crimson flowers, and a satiny gloss on the face, and silvery reverse. It can be raised from cuttings or seeds, the latter preferably. The seeds should be sown in pots or pans in a compost of finely sifted loam, leaf soil, and silver sand, about the end of February, in a temperature of 60deg to 65deg. When large enough to handle, the seedlings should be pricked out into thumb pots in the same compost as used for sowing the seed, and given an ordinary warm house treatment, keeping them well up to the light. The seedlings should not be kept wet, as they are liable to damp off. The next shift should be into 3½ in pots. The compost may consist of loam and leaf soil in equal parts, with a fourth part of well-decayed manure. The whole should be passed through a ½ in sieve and enough sand used to keep it porous. Following this, they should be pinched a little, to make them form nice bushy plants, and ought not to be allowed to become pot-bound, as they are very susceptible to any check. When well rooted, a little stimulant may be given about once a week. The plants should be potted on as they require it, increasing the amount of manure each time. The compost for the final potting should consist of loam, leaf soil, and well-decayed manure in equal parts, with sand as before. When well rooted in their flowering pots they will need copious supplies of water and stimulants about three times a week. They require shading when the sun is very powerful. The chief insect pests are black fly and mealy bug. It is best to fumigate for the fly, and the mealy bug can be kept in check by using methylated spirit on a brush. They should be well syringed occasionally, to keep red spider down.—GEO. BARFOOT, Mableton Park Gardens, Tonbridge, Kent.



Hardy Fruit Garden.

YOUNG STRAWBERRY BEDS.—Frequently hoe the ground between the rows, alike to destroy weeds and encourage the growth of the plants. Cut off runners as soon as they appear. In warm, dry weather, newly planted Strawberries may be watered, but avoid saturating the roots too freely if the plants are but sparsely furnished with them.

ESTABLISHED STRAWBERRY BEDS.—In addition to the mulching applied between the rows, liquid manure should be applied to the plants, though only to those which are showing flower. Farmyard liquid manure, diluted if too strong, contains much excellent nutriment of great value to Strawberries approaching flower and fruiting.

PROTECTING TREES IN BLOOM.—Preparations must be made for protecting any choice bush, pyramid, or cordon Plum, Cherry, or Pear trees advancing into bloom. The slight protection afforded during the prevalence of very wet or frosty nights might be the means of ensuring a good set of fruit. The question of adopting the best means of protecting trees in the open has to be considered. It is obvious that only dwarf trees can be managed. Arrange round them tall poles or stakes, which may meet above the tops of the trees and there be secured together. Around the poles wind tiffany or canvas, making it secure.

APRICOTS.—Protection may still be continued to the trees during the prevalence of untoward weather, and especially in positions where the aspect is cold and bleak, as full exposure to cutting draughts of easterly winds causes blistered leaves. If fruit has set well on the trees some thinning must be done, removing the inconveniently placed fruit first, carrying out the work in a gradual manner until the fruit is swelling freely, and has passed the stoning period. Thinning is usually commenced when the fruits reach the size of horse beans, and this stage is reached the soonest by those trees which are growing in a sheltered and favourable aspect. The disbudding, too, of the superfluous shoots also must be attended to. Any growths which cannot readily be laid in, instead of being dispensed with entirely, can be shortened to a few leaves, when they will ultimately form spurs, Apricots bearing freely on these as well as young ripened growths of the previous year. The latter may be laid in according to their suitability and position, avoiding overcrowding. The Apricot maggot often proves troublesome, and search should be made for them whenever curled leaves indicate their presence. Immediately black or green fly is detected on young shoots attempt their destruction by dusting the affected parts with tobacco powder.

DISBUDDING PEACHES AND NECTARINES.—Good examples of these trees on walls must have early attention in the matter of subduing superfluous growths. The earliest and most vigorous growths are to be found on the upper parts of trees, hence attention should first be directed to these. Rub or cut out the unsuitably placed first, and follow on with the reduction of crowded shoots. When young, short, and sappy it is not difficult to rub them off, but as they increase in strength and become woody their removal must be effected by cutting. Some shoots, in the case of Peaches and Nectarines, as well as Apricots, though not suitable for laying in, are yet worth retaining in a shortened condition, eventually forming spurs. These ought, however, to be limited in number, for the production of fruit on young wood is preferable. Regularity in furnishing the space and ensuring the best trained trees is secured by training the growths only from the upper sides of branches. Strong, sappy growths ought to be rubbed off early, especially those springing from dormant buds. They can seldom be utilised as fruiting shoots, but when well placed, and are required, they will form the foundation for permanent branches, thus coming in useful in old trees when a renewal of branches is found to be necessary. One or two may be retained with this end in view, and if not wanted may be discarded at the winter pruning.

DISBUDDING PLUMS AND CHERRIES.—Plums and Cherries, when established on walls, are invariably trained with a limited number of branches, on which spurs are originated. Growth always issue from these in far greater quantity than can possibly be retained in regard to the health of the trees, because overcrowding must result. Therefore, take the earliest opportunity to reduce these, selecting the worst placed for removal, effecting this a little at a time. The additional space thus provided for what are to be the permanent shoots, will cause them to grow more sturdily and have larger leaves at the lower part of shoots to which they must eventually be shortened.

Disbudding is an excellent means of shaping and training young trees, whether on walls or in the open. It will save the production of much unnecessary growth. Morello Cherries, which are grown on walls, may be treated in the matter of disbudding the same as Peaches and Nectarines, though more shoots may be retained as growths are trained more closely, but avoid overcrowding. The best growth at the base of a fruiting shoot is the one to preserve, but rub out all others, except the leading growth above the fruit, which is necessary to draw the sap to the fruit.—EAST KENT.

Fruit Forcing.

VINES: EARLY FORCED HOUSE.—If the Vines are infested with red spider give a timely syringing with paraffin emulsion, 2oz to a gallon of hot water, and used in a tepid state. This is a rather tedious process, yet it is the safest and best remedy. Syringing, even between the bunches, with the clearest water, spoils the appearance of the Grapes for table or market purposes, and employing sulphur on the hot-water pipes is sometimes attended with serious discolouration in white Grapes. Afford a thorough supply to the inside border, applying it early in the day, so that surplus moisture may pass off before closing time. Avoid, however, making the soil sodden and sour, as this usually results in shanked berries. A light mulch of dry material will prevent moisture arising prejudicial to the Grapes, but we use rather fresh, yet well sweetened, short litter from the stables, and it prevents the soil cracking, and encourages surface roots. Early Grapes do not always colour well, the defect chiefly arising from overcropping or continued hard forcing year after year, and often from attacks of red spider: it is only avoided by moderate cropping, rational treatment, and cleanly culture. A constant supply of rather warm and dry air, with a low night temperature, will do much to assist heavily cropped Vines in colouring the Grapes. When the Grapes are fully ripe a reduction of temperature is advisable, but a temperature of 60deg is essential to the after welfare of the Vines, and moderate moisture should be maintained for the benefit of the foliage. The moisture will not do the Grapes any harm, provided free ventilation is given.

SUCCESSION HOUSES.—The stopping and tying of the shoots must have attention. Where the space is restricted, stop the shoots two joints beyond the fruit, and as foliage is necessary to sustain root activity, leave the laterals on the shoot both above and below the bunch, or at least those from the two lowermost eyes, and those level with and above the bunch. Pinch these at the first joint, especially those from the basal leaves, also those above, unless there is space for extending the laterals, when they may be allowed to make two or three leaves, but no more growth must be encouraged than can have full exposure to light and air. After the space is fairly furnished, keep the growths closely pinched to one joint as made.

TYING DOWN.—It is a good plan to have the rods somewhat lower than the trellis, so that the shoots from the side have a slight incline upwards. In tying these in the places where they are to remain during the summer, it is a common practice to begin tying them down as soon as they are long enough to bend. This is not advisable unless as a precaution against injury from frost, as the shoots at this stage are so tender that the slightest twist the wrong way breaks them. It is a good method to defer tying down until the shoots are less sappy, which may be when the bunches are showing clear of the leaves. Sufficient space should be left in the ligature for the swelling of the shoots. Stopping ought to commence when the leaf at the joint or place of pinching is the size of a halfpenny.

VINES IN FLOWER.—Afford Muscats a free circulation of rather dry air and a temperature of 80deg to 85deg or 90deg by day from sun heat, 70deg to 75deg otherwise, and 65deg to 70deg at night. Raise the points of the bunches to the light, and liberate the pollen at mid-day by gently rapping the footstalks of the bunches, or go over the bunches carefully with a large-sized camel's-hair brush, so as to remove the "cups," and afterwards dust them with another charged with Alicante pollen, or that of some different variety of a free setting nature. Hamburghs set freely in a lower temperature, but they are better for a little assistance from fire heat, and other varieties are similarly aided during the flowering period.

THINNING BUNCHES AND BERRIES.—It is advisable to make a selection of the best bunches, and leave only those required for the crop before they come into flower. This concentrates the forces of the Vines on those retained, and by proper attention to fertilising the flowers a good set and finer bunches and berries are secured. Thinning the berries should commence as soon as they are set, especially in the case of the free-setting varieties, and where fine specimens are required for exhibition, it should be attended to whilst they are in flower. With the shy setters thinning should be deferred until the properly fertilised can be distinguished by their taking the lead in swelling. Follow it up on dull days, or early and late in bright weather. Remove surplus bunches, under rather than overcropping the Vines, as too heavy cropping is fatal to colour and finish.

FEEDING.—When the Vines are in full leaf and the Grapes swelling, they require abundant supplies of nourishment. This may be given in liquid form, but it is not by any means the safest method, as an over-strong dose sometimes destroys the fibrous roots. Shanking also often follows stuffing the soil with organic matter held in suspension. All the advertised fertilisers are excellent and handy. It is best to give the borders a thorough supply of water, then supply the fertiliser and water in moderately. By this procedure there is no fear of losing any virtue the fertiliser contains, but when it is given on a dry border, and followed by a heavy watering, it is likely to be washed into the drainage, and roots be encouraged at the bottom of the border instead of near the surface. A light mulch of short manure will be of advantage in keeping the border uniformly moist.

LATE HOUSES.—The Vines are now making rapid progress. Disbud and tie out the growths as they require it. Close the house early in the afternoon with sun heat, and maintain plenty of atmospheric moisture by frequently damping the houses and syringing the Vines at closing time, but not after the bunches show. Late Hamburgs are starting naturally, and need only have a little fire heat to exclude frost.

YOUNG VINES.—It will be necessary to afford a gentle fire heat in cold weather to keep the Vines in steady progress, otherwise they are best allowed to start naturally, and secure a sturdy growth by judicious ventilation. Disbud, leaving the best shoots on both sides of the canes, and alternately at about 18in distance apart. The canes will have been depressed, so as to cause them to break regularly down to the basal buds, when they may be tied in position. Crop lightly, one or two bunches being the maximum on permanent Vines. Any supernumeraries planted to fruit early, and afterwards be cut out, may carry a bunch on each shoot, six or eight bunches, however, are as many as vigorous Vines can bring to perfection, and fewer should be left on weakly canes.—ST. ALBANS.

Observers' Notes.

Under this heading there are many short interesting notes our readers might send.

It will be noticed that the song thrushes are now busily engaged in searching for, and carrying of, worms. The earliest broods hatch about this time. The squirrel builds now. Soon the nightingale will be heard.—D.

* * *

The Daffodil beds at Kew began to make a show on Sunday last, the sunshine having a wonderful effect on *N. incomparabilis* Sir Watkin, bicolor Dean Herbert, and Emperor. The Horse Chestnuts have foliage that is half expanded.

* * *

I am pleased to report having heard the cuckoo on Saturday, 12th inst., and yesterday (Sunday), 13th inst., saw a house martin.—ALICE BAKER, Petersfield, Hants.

Early Swallows.

A correspondent to the "Gardeners' Chronicle," last week, writes:—"I saw a swallow feeding, strong on the wing, near Shepperton, on April 3, the earliest I have ever noted.—D."

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1902. April.										
Sunday ... 6	N.N.W.	deg. 42.7	deg. 37.8	deg. 48.1	deg. 37.5	Ins. —	deg. 45.1	deg. 45.8	deg. 45.8	deg. 31.5
Monday ... 7	N.N.E.	40.9	36.8	45.1	29.0	—	43.8	45.7	45.8	18.4
Tuesday ... 8	N.N.E.	39.3	36.3	43.1	37.0	—	43.5	45.3	45.8	27.3
Wed'sday 9	N.N.E.	41.7	37.8	46.9	35.4	—	42.4	44.7	45.8	23.6
Thursday 10	N.N.E.	41.7	37.4	46.6	37.5	—	42.7	44.4	45.8	33.0
Friday ...11	E.N.E.	45.1	40.9	49.1	35.8	0.07	42.6	44.3	45.8	29.2
Saturday 12	E.S.E.	44.1	41.9	52.4	40.2	0.01	43.4	44.3	45.7	38.0
MEANS ...		42.2	38.4	47.3	36.1	Total. 0.08	43.4	44.9	45.8	28.7

A dull, sunless week, with bleak north-east wind.



* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

RHUBARB (J. Hood).—The Elford is scarlet-stalked; Britannia, dark pink; Randall's, dark pink; and Myatt's Victoria, crimson. We never heard of the Peach Rhubarb.

ADDRESS OF ENGLISH ARBORICULTURAL SOCIETY. (B. S.).—The secretary and treasurer is Mr. John Davidson, and his address the Estates Office, Hadyon-Bridge-on-Tyne.

PRIMULA SIEBOLDI LILACINA: A QUERY.—A correspondent desires to know where he may obtain seeds of the above. Any of our readers who may know would oblige by giving us an address.

LIMING GROUND FOR POTATOES (Amateur).—A dressing of lime would be highly beneficial, and that known as "land" lime is most suitable. It should be used in a quick state, and at the rate of two bushels per 100 square yards. The lime should be applied before planting—i.e., spread on the surface and lightly forked-in.

DEODORISING SEWAGE (G. Hughes).—The earth is one of the best deodorisers. If the liquid be distributed by a water-cart towards evening we believe there would be little or no offensive smell detectable next morning. Half a hundredweight of sulphate of lime (gypsum) might be mixed with each one hundred gallons of the sewage.

NEAPOLITAN VIOLETS (Idem).—Divide the plants into as many parts as you can, preserving a little root to each division or sucker, and these plant out in good rich light soil in a shady border, a foot apart every way. Water well during dry weather. Keep all runners cut off as they appear, or if you want stock they may be layered; but the plants will not be so good for flowering as those which were not allowed runners. Remove with balls to a frame at the close of September, or they may be potted.

ROSE HOUSE (F. E.).—If you have Roses upon the roof so as to cover it, the space beneath will be made too dark for the successful cultivation of dwarfs. One up each rafter would be a different thing to covering the roof, but even those ought not to have a greater spread than 12in to 15in, leaving a clear space between each of 2ft to 2½ft, which will admit of light to the dwarf plants. Cocoa-nut fibre refuse is not, unless thoroughly reduced, good for pot Roses, and in that state is a desirable addition.

PEARS' BLOSSOM BUDS ON LEADING SHOOTS (I. S.).—This is not an uncommon occurrence, and cannot be prevented; leaf buds will start further down on the young wood, and must be trained in the same place that the leading buds would have been trained. We have seen walls 14ft high furnished from the base to the summit with trees trained as yours are, but they were on the Pear stock. The Quince stock is used when dwarf trees are required; but even on the dwarf stock the same height may be attained.

TAKING MEASUREMENTS OF RAINFALL (G. C.).—You must procure a rain gauge, a copper cylinder with graduated glass measure, divided to 100ths of an inch, price about 18s. 6d., and place it in an open situation where not affected by trees or buildings. Each day you will need to examine it at a given hour, say 9 a.m., and measure the water in the receiver, registering this in a book, and keep each month separate, summing up at each month end, and then again for the year. Nothing could be more simple.

APPLYING FERTILISER TO VINE BORDER (R. A. C.).—No doubt the double sulphate of potash and magnesia is difficult to procure, it not being an often asked for article, and is really a somewhat more concentrated form of potash than kainit, consisting of a double sulphate of potash and magnesia ($K_2Mg_2SO_4$). It is, we think, the best form in which potash can be supplied to the majority of soils, and especially to heavy land. The magnesia adds materially to the value of the article without any practical increase in the price. If you write to Messrs. Hy. Richardson and Company, Skeldergate Bridge, York, you may find that it is a commercial article. It is not generally advisable to give another dressing of the manure after trimming and again at the last swelling, but use the following:—Dissolved bones, three parts, nitrate of potash two parts, and sulphate of lime one part, applying 4oz of the mixture per square yard.

INSERTION OF APPOINTMENT (E. Allen).—There is no charge for insertion.

NAMES OF PLANTS.—*Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number.* (J. B.).—*Cytisus racemosus.* (Cone).—1, The large coned specimen is *Picea Nordmanniana*; 2, *Alnus glutinosus.* (A. P.).—1, *Dendrobium atrovioleaceum*; 2, *D. Pierardi*; 3, *Clerodendron splendens*; 4, *Begonia Verschaffelti.* (A. T. Z.).—The name Dog's-tooth Violets was suggested by the shape of the root; 2, *Fritillaria pudica.* (J. Mc., Ballyarthur).—1, *Kalmia latifolia*; 2, a mere form of the same; 3, *Pieris (Andromeda) floribunda.* (Breaston).—*Billbergia* sp.

Covent Garden Market.—April 16th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.			
Apples, cooking, bush.	6	0 to 8	0	Grapes, Alicante, lb. ...	4	0 to 4	6	
„ Newtowns,				„ Colman	4	0	4	6
case	10	0	12	„ Almeria	0	8	1	0
Bananas	8	0	12	Oranges, case	10	0	25	0
Dates, red V., doz. bxs.	5	6	0	Pines, St. Michael's,				
Lemons, Messina, case	12	0	16	each	3	6	5	0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	2 0	to 3 0	Mushrooms, forced, lb.	0 5	to 0 6
„ Jerusalem, sieve	1 6	0 0	Mustard & Cress, pint.	0 2	0 0
Batavia, doz.	2 0	0 0	Parsley, doz. bnchs. ...	2 0	3 0
Beans, French, lb.	1 0	1 3	Potatoes, English, cwt.	4 0	5 0
Beet, red, doz.	0 6	0 0	Radishes, doz.	0 9	1 0
Cabbages, tally	6 0	8 0	Seakale	1 0	1 3
Carrots, doz. bnch.	2 0	2 6	Shallots, lb.	0 2	0 3
Cauliflowers, doz.	2 0	3 0	Spinach, bush.	2 0	3 0
Corn Salad, strike	1 0	1 3	Sprue, French, dozen		
Cucumbers doz.	4 0	5 0	bunches	8 0	9 0
Endive, doz.	1 0	1 3	Tomatoes, Canary		
Herbs, bunch	0 2	0 0	consignment	4 0	4 6
Horseradish, bunch	1 6	0 0	Turnips, doz. bnch. ...	2 0	3 0
Leeks, bunch	0 1½	0 2	Watercress, doz.	0 6	0 0
Lettuce, Cabbage, doz.	1 0	1 3			

Average Wholesale Prices.—Plants in Pots.

Most of the undermentioned plants are sold in 48 and 32-sized pots.

	s. d.	s. d.		s. d.	s. d.	
Aralias, doz.	5	0 to 12	0	Foliage plants, var, each	1 0 to 5 0	
Araucaria, doz.	12	0	30 0	Genistas, doz.	6 0	8 0
Aspidistra, doz.	18	0	36 0	Geraniums, dble., doz.	6 0	8 0
Azaleas, white and				Grevilleas, 48's, doz. ...	4 0	5 0
coloured, doz.	24	0	30 0	Lycopodiums, doz. ...	3 0	0 0
Crotons, doz.	18	0	30 0	Marguerite Daisy, doz.	8 0	10 0
Cyclamen, doz.	6	0	9 0	Myrtles, doz.	6 0	9 0
Cinerarias, doz.	4	0	6 0	Palms, in var., doz. ...	15 0	30 6
Cyperus alternifolius				„ specimens	21 0	63 0
doz.	4	0	5 0	Pandanus Veitchi, 48's,		
Dracæna, var., doz. ...	12	0	30 0	doz.	24 0	30 0
„ viridis, doz.	9	0	18 0	Pelargoniums, doz. ...	10 0	15 0
Erica caffra	15	0	18 0	Primulas	3 0	4 0
„ Wilmoreana	9	0	12 0	Shrubs, in pots	4 0	6 0
Ferns, var., doz.	4	0	18 0	Solanums	8 0	10 0
„ small, 100	10	0	16 0	Spiræa japonica, 48's,		
Ficus elastica, doz. ...	9	0	12 0	doz.	6 0	8 0

Average Wholesale Prices.—Cut Flowers

	s. d.	s. d.		s. d.	s. d.
Arums, doz.	2	0 to 3	0	Lily of the Valley, 12	
Asparagus, Fern, bnch.	1	0	2	bnchs	6 0 to 12 0
Azalea mollis, bunch	0	6	0 9	Maidenhair Fern, doz.	
Bouvardia, white,				bnchs.	6 0 0 0
doz. bunches... ..	6	0	8 0	Marguerites, white,	
„ coloured, doz. bun.	6	0	8 0	doz. bnchs.	2 0 4 0
Camellias, white... ..	1	6	2 0	„ yellow, doz. bnchs.	2 0 0 0
Carnations, 12 blooms	1	3	1 9	Myrtle, English, per	
Cattleyas, doz.	8	0	12 0	bunch	0 6 0 0
Croton foliage, bun. ...	0	9	1 0	Narcissus, Soleil d'Or..	1 0 0 0
Cycas leaves, each ...	0	9	1 6	„ Poeticus, doz.	1 0 2 0
Cypripediums, doz. ...	2	0	3 0	Odontoglossums	4 0 0 0
Daffodils, single, doz...	1	0	2 0	Orange blossom, bunch	2 0 3 0
„ double „	1	0	0 0	Primula, double white,	
Eueharis, doz.	2	0	3 0	doz. bunches... ..	6 0 8 0
Freesias, doz. bunches	1	0	1 6	Roses, Niphetos, white,	
Gardenias, doz.	2	0	3 0	doz.	1 6 3 0
Geranium, scarlet, doz.				„ pink, doz.	2 0 4 0
bnchs.	4	0	6 0	„ yellow, doz. (Perles)	1 6 3 0
Hyacinth, Roman,				„ Maréchal Niels ...	2 0 4 0
doz. bunches... ..	5	0	6 0	„ Generals... ..	1 0 2 0
Ivy leaves, doz. bun. ...	1	6	0 0	Smilax, bunch	3 0 4 0
Lilac, French, white,				Tuberose, gross	0 0 10 0
bunch	4	0	4 6	Tulips, white, single,	
Lilium Harrisii	3	0	0 0	doz. bun.	6 0 0 0
„ lancifolium alb.	2	0	2 6	„ scarlet, single,	
„ l. rubrum... ..	2	0	2 6	doz. bun.	4 0 0 0
„ longiflorum	3	0	4 0	Violets, single, doz ...	0 9 1 0



The Quarterlies.*

Yes, indeed, the newspapers devote whole columns to a review of the "quarterlies." They are a power, a recognised power, in the literary world. They are no new thing. They either commend or damn with faint praise; they make or mar the hapless author's reputation; they are of more power than the weekly or monthly review; they have the prestige of age to give them weight, and their decision is final. Personally, we think they contain some of the smartest writing of the day, and in well-read families they are ever welcome. No frivolity about them! Good, solid matter, which furnishes food for reflection.

But the reader will say, This is all right, but what on earth is the agricultural writer thinking of when he discusses the quarterlies in this column? Has the perusal of the quarterlies turned his brain, or does he think we, as a body, need inducting into the wider fields of literature? No, kind reader, we are taking no unfair advantage of our position; we should hate to bore you, especially after a hard day's work and anxiety on the land. You have plenty to harass and annoy outside, and when the armchair and slippers beckon we want you to turn to the old Journal for amusement and recreation. Will you kindly look at the footnote, and you will see it is a farmer's quarterly we wish to call to your notice? The name Bibby, Liverpool, is associated with feeding stuffs, and with something of the "go-aheadness" of the Yankee; they try to cater for the farmer as well as his stock. We have never come across a copy till this week, and we begin to think we have been sadly remiss. Who does not like bright pictures and pleasant short essays? What the paper has cost getting up we should not like to say. It is the Spring Number, and the pretty coloured frontispiece is framed in Daffodils and Primroses. The sweet girl among the Irises will be embellished with a frame in many a household, although where we live the Iris can hardly be classed as a "spring" flower. There are some of the prettiest photographs of horses we have ever seen, and the one entitled "A Problem in Shoeing" is most natural and lifelike. The first article is on "Light Horse Breeding"—need we say in the face of present revelations re the purchase of remounts it is a subject that wants ventilation. (We have a good deal to say on this topic presently, and all we say may not please.) Then, before other horse subjects are touched, is an article on shoeing. Bad shoeing, we know from sad experience, is a fruitful source of lameness. Then there are hints on the management of the foaling mare and her progeny, and the education of that progeny. The education of the horse is a fine art, and the teacher requires to be quite as much a skilled, trained personage as the instructor of youth. On early habits the after life depends, the success or failure we mean. The management of the stallion is for the select few, but the hints are practical.

Then we come to thirteen groups of calves, all as handsome as paint, and all reared on "Cream Equivalent." Well, they are the best of advertisements for the firm, and they are bonnie. Now that there is such a call for milk for the human family the calf-rearing question under the old method is becoming impossible. There was a distinct demand for some substitute, and if the calves are like their photographs, Bibby and Co. appear to have solved the difficulty. It has long been an accepted fact that home-reared stock paid the farmer best. He knew what he was breeding from, and he ran no risk of importing disease. Various calf ailments are treated of and remedies suggested. Naturally, the dairy and dairy cows occupy much space, and if all the hints were acted upon we should hear less of uneven butter and unpleasant milk. There is a right and a wrong way of doing these things, and the right is the easiest in the long run. We are glad to see one writer advocating the use of the separator; it really is one of the finest inven-

* Bibby's Spring No.: Liverpool.

tions of modern days. It is far and away before the old system—setting milk in pans. The skimming was never absolutely thorough, and it is better to clean one separator than multitudinous pans.

Dairy work does not end with the cream. Oh! this butter question is an endless one, but Bibby has a word to say on every conceivable point, and many of the hints are conveyed in short, terse sentences—easy to read, good to remember. The care of the milk and butter machine, for really that is what the cow is. The choice of the best, the future of the calf. A few notes on the different breeds, and the desirability of breeding the best, and that alone, and remembering the great influence of the sire on young stock. We were amused on reaching page 200—"Here begins the literary supplement." We thought it was all literature, and good too. We have done with bovines, and gone up to the great human family. In this part there is a charming little photograph of an interior—an old farmhouse kitchen, with open fireplace, such as one rarely sees in the north. There is no place like the farm kitchen, with its warmth and ruddy hue, and its promise of good things; the bacon and hams from the rafters, and the pans and pots that surely don't exist for show alone, but that must be used in the production of dainties.

The literary part is soon left, and we are back among stock and general farm pursuits. Farm servants' cottages is a point to which we would draw the attention of the landlord or his agent. Decency and comfort must be aimed at; the country has its drawbacks, but, at any rate, there is space enough to build good cottages—they need not be crowded back to back. Good gardens they need, but not too big, as the writer wisely adds, they (the labourers) get plenty of the land in the daytime when at their ordinary work. The paper on "Leakages on the Farm" should be read by every farmer and those of his children who are able to comprehend the meaning. Farming now is not so much the making of sovereigns as the saving of pence; the profit margin hardly exists. Every kind of stock is touched on, but we are surprised to find only one article devoted entirely to a fertiliser, and that one lime. We should have considered the manure question too great a one to compress into two or three papers; but perhaps we overrate the need.

The beautiful illustrations of birds and their nests appeal not only to the boys of the family, but to their parents also. We never saw anything more delightful, and we know by experience the difficulty there is in getting a good view of a nest, *i.e.*, that is bringing the camera to bear upon it. Just consider the matter a moment. The situation of the nest does not, as a rule, court discovery, and the camera and operator have sometimes figuratively to stand on their heads to get a proper view. We have nothing but praise to say of the whole. It is artistic, interesting; and good, and quite fit to rank with the best of the quarterlies.

Work on the Home Farm.

The week has been fine except for one day, when we had a perfect deluge, which has made land work impossible since. We now have bright, sunny days and frosty nights (12deg of frost last night), so matters will soon be all right again. One thing we must bear in mind, *viz.*, to keep off the land when it is wet and sodden. We should like to keep our sheep off the seeds during these frosty nights; but it is difficult to do, as the only available grass fields are too far away to allow of night and morning journeys to and fro, whilst the grass is not forward enough to support the ewes altogether, even for a few days. The check to pastures is having a disappointing effect on markets, our largest local one having a record supply of both cattle and sheep. Trade was naturally very heavy, and large numbers remained unsold, some never having been taken off rails but sent back in the trucks as they came.

We believe there never was so little corn left unthrashed in April for a very long period. Stacks are generally solitary. We know of only one stackyard where there are more than one, and could not name the place where Oats or Barley remain in the straw. Here and there a solitary Wheat stack, and that is all. Scarcity of straw is the chief reason, but scarcity of money is a contributing cause.

The proposal to allow a bounty of 5s. per quarter on Wheat retained in stack until August would, if carried out, have little effect until we have had a genial summer or two and accumulate a reserve of straw. Mangolds have so proved their usefulness lately that larger breadths are sure to be sown, and, except on low-lying, peaty, or wet soils, there is nothing saved by deferring sowing until May. As soon as we can ridge the land we shall do so, get the manure—which must be as short and well decayed as

possible—put on at once at the rate of 12 loads per acre. 2cwt of kainit, 1cwt nitrate of soda, and 3cwt of superphosphate will be sown broadcast on the rows, which will then be split, and the seed drilled with a 2-row Scotch drill.

We have before recommended the soaking of Mangold seed before sowing. If it is steeped in water for twenty-four hours and then spread out thinly for a few hours, just to take the stickiness off before drilling, germination will be made much more certain. We once soaked some seed until the small germs began to break through the outer husk, and when we drilled it the seed husks were like a number of sprouted Potatoes. The plants were above ground very quickly, and we never had a finer plant or a more satisfactory crop. We hear of farmers turning their horses out on Sundays to save fodder. It is a dangerous practice. May is quite early enough, and even then it is not always safe. These bright days, accompanied by east winds, are very treacherous. Foals—even very early ones—must be kept strictly in shelter until the wind is milder.

Sunflower Culture as an Industry.

The sale on the Baltic of 300 tons of Sunflower seeds at £11 5s. per ton serves as another reminder to people that the *Helianthus*, or Sunflower, is one of those crops in which there is money. A small trade has been done in the seeds for close on two centuries in Russia, France, Germany, and Italy, but in England the cultivation has been exclusively for ornamental purposes. In America it has recently formed the subject of a special report to the United States' Department of Agriculture. This report shows that the plant can be grown successfully, but that it is a crop which makes a considerable drain on fertilisers. The report also shows that the cultivation of the flower would prove commercially advantageous, and that the methods pursued for growing Indian Corn should be followed. It is largely cultivated in China and Tartary—it spreads with comparative rapidity—and in Simla and other hill stations, where it was introduced into gardens, it may now be found growing wild. The Jerusalem Artichoke, or *Helianthus tuberosus*, is believed to be a native of North America. It was introduced into Europe about three centuries ago, from there into India, and soon became an article of diet, the people of Kathiwar reckoning it a very nutritious vegetable, and most palatable when boiled in milk. The seeds are sold in Russia and eaten as nuts, and when torrefied in the same manner as Coffee may be used as a substitute for it. They are also considered beneficial to poultry and to birds generally, and possess, moreover, medicinal value in the treatment of farm animals. Cows and oxen, horses, sheep, pigs, rabbits and poultry are all fond of them, and they are considered superior to linseed for cattle, which are also fed on the oilcake. It is, however, on account of the oil that the plant has now assumed such commercial importance. In its pure state this oil is said to be excellent for the table, and in Russia it is already in use as an adulterant of almond and olive oils. It may be advantageously utilised for woollen dressing, lighting, and candle and soap making. Somehow, the oil expressed many years ago from seeds of plants experimentally cultivated in Bangalore was a disappointment commercially, for it was inferior as a table oil, its thinness made it useless for railway trains, it dried too slowly for paint, and, though in the Ordnance Department it was found to serve all the requirements of the Arsenal, the price was prohibitive. Some species of the Sunflower, such as *H. thurifer*, secrete a resinous juice, which some day may be utilised. The blossoms furnish a bright and lasting dye, and the stalks of the plant yield a useful textile fibre, while bees are largely attracted to the flowers. It was at one time believed that the Sunflower possessed great value in the reclamation of marshy tracts of land, besides the property of removing malaria from swampy areas. To test this theory, cultivation was undertaken in Bangalore about thirty years ago, but the virtues of the plant proved to be imaginary. In Russia, where the cultivation for oil is on a large scale, the *grandiflora* is the variety grown. The species which the natives of India have for a long time cultivated is the *H. annuus* of modern botanists, and the *H. indicus* of Linnæus. This was at one time believed to be a native of India, and it is probably to this genus that reference is made in the history of the reign of Akbar.—("Tropical Agriculturist," February 20.)

Publications Received.

"Le Moniteur d'Horticulture," coloured plate, representing *Diospyros Kaki*, the Date Plum, with a cultural article which also names varieties. * * * An essay on the best means of establishing "A Bird and Arbor Day" in the British Isles, by E. D. Till, Eynsford. * * * "Floralia," illustrated. * * * Board of Agriculture Leaflet 72, "The Purchase of Artificial Manures;" Leaflet 73, "The Colorado Beetle."

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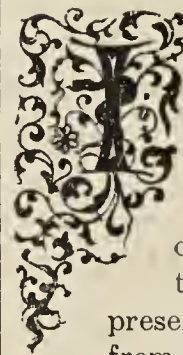
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Journal of Horticulture.

THURSDAY, APRIL 24, 1902.

The First Plants.



INASMUCH as the vegetable

bodies which can resist the

long continued action of water

are but few, it seems probable

that fossil plants hitherto dis-

covered, only partially represent

the creations antecedent to the

present existing one. Ideas obtained

from them, therefore, must necessarily

be superficial and speculative. They furnish

however, an ample amount of evidence which

satisfactorily demonstrates that the first

plants did not originate from seeds, but from

spores. They were undoubtedly vascular

cryptogams, and formed for many ages a

leading feature in the vegetation which

formerly covered the earth's surface. They

consisted of gigantic trees with the most

simple foliage, and having cylindrical stems

without leaves, the tall columnar form of the

Calamite, the Lepidodendron, which seemingly

was but a gigantic Lycopodium or Club Moss,

and Tree Ferns, with an undergrowth of

herbaceous plants, having neither flowers nor

fruit, but carrying in their place simple

sporangium.

The testimony of the oldest sedimentary

rocks is to the effect that the first plants were

the produce of the swamps, seaweed or algae

being in reality the first vegetable inhabitants

of the globe. They would naturally be the

first to form in the shallowing depths before

the elements land and water separated from

each other, thus there was for ages a swampy

vegetation. Ever since land has existed there

have been plants of tree-like proportions and

bulk. It is unnecessary that there should

have been a rich and varied flora to produce

this result. In fact, did none other plants

exist now save those belonging to the natural

order Rosaceæ alone, we should still have

herbs, shrubs, and trees covering the land-

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scape. The yellow Cinquefoil (*Potentilla canadensis*) and the wild Strawberry (*Fragaria vesca*) are but lowly herbaceous plants; the common Blackberry (*Rubus villosus*) and the Sweet Brier (*Rosa rubiginosa*) are shrubs; whilst the Apple, Pear, Plum, and Cherry are the fruit of trees; yet they are all Rosaceous plants. Therefore, notwithstanding the monotonous sameness and cryptogamous character of the vegetation which covered these ancient landscapes, they were not without their trees.

As the land became more elevated and free from water, Cycadaceæ, or plants allied to the Sage Palm, coniferous trees, such as Pines and Ferns, with needle-shaped leaves and rudimentary inconspicuous flowers of extreme simplicity of organisation were added to our primeval forests. Then came trees with true leaves, such as the Willow and Maple, and along with them we discover the first evidence of the creation of the more highly organised conspicuous flowers—for Nature is ever consistent—flowers being, as is now universally admitted, nothing but the ordinary leaves of the stems brought together, in consequence of a loss of vegetative power in the branch on which they are borne, and metamorphosed with reference to the reproductive function. The first bee was found in the amber or fossil resin of the Pines of the eocene period, and portions of the wings of butterflies and other flower-sucking insects are met with enclosed in the same substance. Trees of a low order of organisation, such as the Birch, Beech, Oak, Poplar, Chestnut, and Hornbeam, were probably as abundant in forests of those days as they are now in our present woods. But there is no proof of the creation of Rosaceous plants; these seem to be coeval with the first appearance of man. It is, therefore, evident that our forest trees were not all created at the same time; but are the product of different geological eras; and that the plant covering with which our earth's surface is now overspread is only a part of perhaps many earlier plant creations, all of which in turn have assisted in preparing to fertilise the present one. There is an irresistible mass of evidence to the trained botanist that the existing glorious and variegated vegetable creation was preceded by many others, is continuous with them; and the product of their labours.

Plants of a low type of organisation are indubitably the oldest inhabitants of the globe, the more highly organised ones being introduced, and following in succession, and the most highly developed (i.e., the existing) at a comparatively speaking modern geological epoch. Coniferous trees—those with needle-shaped leaves—such as the Fir, Pine, and Larch, also Ferns, Horse-tails, and Club Mosses, are amongst the most ancient types. These have all descended from the earliest periods. The first flowers among herbaceous plants appear to have been land and water Lilies and plants of the Heath tribe. Among trees bearing true leaves and conspicuous flowers, the lovely Tulip-tree (*Liriodendron tulipifera*), which abounds in North America, and of which there are examples in this country, appears to be one of the most ancient forms of trees. Also those belonging to the order Leguminosæ, as the False Acacia and the Locust tree. These trees all preceded Rosaceous plants in the plan of creation. Then those producing edible fruits, as well as beautiful blossoms, such as the Peach, Apricot, Apple, Pear, Plum, and Cherry, were introduced when the earth was ready for the reception of man. As their remains are only found in the geological formations now in progress they must be regarded, like him, as among the most recent creations.

Thus the most important fact taught us by the fossil plant is that the organic and inorganic creation very slowly assumed its present appearance, and the evidence leads us irresistibly to the conclusion that great changes have in different ages taken place in the organisation of plants, by which their forms have been gradually adapted to the ever-

changing landscape. Hence we are led to conclude that the history of the development of plants is intimately connected with the history of those physical changes which the earth's surface has at various periods undergone. The present appearance of creation is the necessary result of many antecedent changes of which the earth's crust has preserved the memorial. The world, indeed, may be likened to a great and ancient theatre, where the scenery of life is ever shifting; for if there be truth in Nature, which none can doubt, then nothing on earth is permanent, as the memorials of the past so distinctly teach us.—WM. NORMAN BROWN.

Growing Water Lilies from Seed.

The process of growing Water Lilies from seed is not very tedious, and may be done as successfully in the humblest home as in the finest conservatory. I submit a few notes (says the undersigned in "American Gardening") for the benefit of those who desire to try growing them from seed, but who do not have access to a greenhouse.

HARDY NYMPHÆAS.—An important item in this connection is fresh seed. The best time to sow them is in the fall, soon after maturing. Self-sown seed nearly all germinate. When this has been omitted they can be sown out of doors in either natural or artificial ponds, in March or early April. Select a sunny, sheltered place where the water is 6in or 8in deep, with good soil bottom. Plant each seed by pressing it into the soil and covering it $\frac{1}{2}$ in deep. Protect from fish and water fowls. I prefer to sow in boxes of soil sunk in the water. Then in case of a rise or fall of the water the boxes can be dragged in or out, keeping the young Lilies at a congenial depth until they become strong enough to battle against drought and flood. If one has no ponds, seed may be sown in tubs filled half full of soil and to the brim with water. With the warm days of spring and early summer most of the seed will germinate, and the plants may remain in the seed beds until the following spring.

NELUMBIUMS may be planted in exactly the same way as hardy Nymphæas. The seed should first have a hole filed through the hard shell to allow the water to penetrate to the kernel, else they may lie in the water indefinitely without germinating.

TENDER NYMPHÆAS.—In the absence of a greenhouse probably the best way to sow these is in a tub of water in a bay window or other light window near to a heater. With the majority of us, probably the kitchen window with a southern exposure and close to the range is most convenient. The time for sowing these is now at hand, in order to have early bloom. Fill some 5in pots with garden soil, sprinkle the seeds on, press down firmly and cover $\frac{1}{2}$ in. Sand is preferred for covering as it holds the soil in place and prevents the seeds from floating. Two or three pots will be sufficient for a packet of seed. Set the pots in tub and pour in water until the pots are covered 4in or 5in. Keep the water at a temperature of 70deg—a little higher in the daytime would be better—and some of the varieties will be up within two weeks. Others will linger for a month. When the first leaves begin to float transplant them, giving each plant a 2in pot. In course of a month they will need another shift and may call for more tub room before removing to the ponds out of doors in June. Persons not having space enough to admit a tub can sow the seeds in pails, bowls, pans or any convenient and clean vessel that will hold water, preserving the same idea as given above. Seeds of tender Water Lilies may also be sown out of doors after the manner recommended for hardy ones, except they should not be planted until danger of frost is over and the water becomes warm. This throws the blooming period so late in the fall, however, it is but little practised, except to grow the tubers to keep over winter for another season.

VICTORIA REGIA and **V. RANDI** require a temperature of 90deg, and an attempt to grow them without a greenhouse generally ends in failure. **V. Trickeri** [Cruziana] will germinate under the same conditions as the tender Nymphæas.

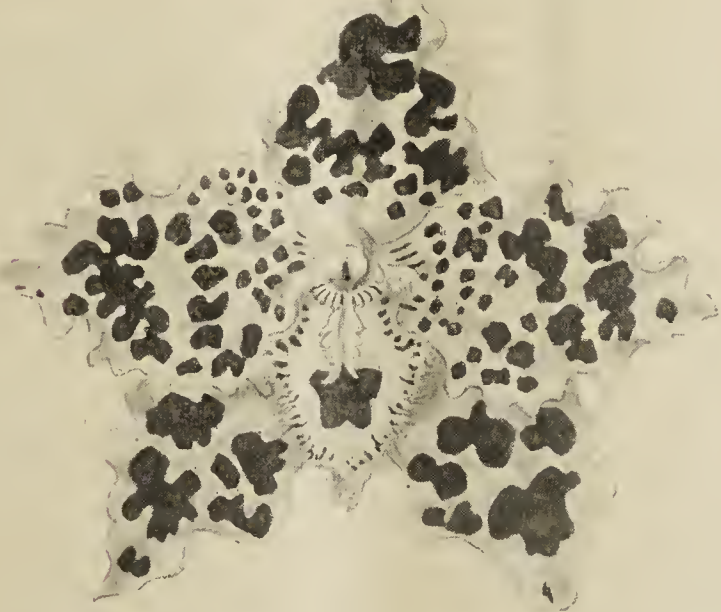
VARIETIES.—A word on this might not be out of place just here. All seed cannot be relied on as producing absolutely the same variety as its parent. All varieties of Water Lilies do not mature seed; some seeds are slow to germinate. For these reasons the practice of reproducing Water Lilies from seed is not in general favour. A sufficient degree of success may be gained, however, to liberally reward one's efforts. The varieties that do best from seed are:—Tender—Victoria Regia and its varieties: *N. Zanzibarensis* and its varieties; *N. dentata*, *N. O'Marana*, *N. Lotus*, *N. gracilis*, *N. scutifolia*, *N. cœrulea*; Hardy—*N. odorata* and most of its varieties; *N. tuberosa* and its varieties; the Nelumbiums.—GEO. B. MOULDER."

**Odontoglossum × Adrianæ Memoria Victoriae Reginae.**

Baron Sir H. Schröder, of The Dell, Egham (gardener, Mr. H. Ballantine), exhibited this small flowered, but very richly coloured, variety before the Orchid Committee of the Royal Horticultural Society, at the meeting in the Drill Hall, on April 8. The flowers are of perfect shape and possess much substance, the fringed sepals and petals being evenly blotched with dark chestnut colour on a white ground. The lip is crimped and fimbriated. The plant bore a very strong raceme, and was accorded a First Class Certificate. Our illustration is from a sketch by Mr. Geo. Shayler.

Angræcum sesquipedale.

The illustration of this Orchid, which appeared in last week's issue of the *Journal of Horticulture*, shows the plant when in flower last February in the Gardens at Carton, Co. Kildare. The main stem, measuring from the surface of the basket to the top leaf, was 3ft 10in; a young shoot growing from the base of the main stem is now 20in high, and this carried four flower spikes with three blooms on each, the old stem having three

**Odontoglossum × Adrianæ memoria Victoriae Reginae.**

spikes. Altogether the seven spikes carried twenty-two blooms. Last year it had six spikes and seventeen blooms. The plant is kept in the warm end of an Orchid house, with a night temperature not under 60deg, by day 65deg to 68deg during the winter months; and in summer temperature at night is 65deg, by day 70deg to 80deg. The potting compost consists of sphagnum, rough crocks, and lumps of charcoal. The plant is never freely watered, but kept in a moderate damp state, not allowing it to get dry even in winter, although much less water is then required.—A. BLACK.

The Week's Cultural Notes.

Bright hot days and cold frosty nights are a combination that rather bother the amateur grower of Orchids, especially if he be one of the rule-of-thumb cultivators, who like everything very regular, and think that a slight drop in the temperature spells destruction to his favourite plants. I am far from recommending a careless method of culture, but I have long since found that it is far better to allow the slight drop toward morning than to push the fires on. A hot dry night temperature is very bad for Orchids, unnatural, and tends to give increase of those insect pests that most affect them.

It is not, of course, possible to forecast overnight what the weather will be in the morning. At night it may look clear and frosty, and it may be dull and muggy afterwards; so if the fires were banked up fairly strong there would be too much heat on the pipes in the morning. But in most cases now, when in doubt, it is best to leave the fires rather low, for the nights are short and the sun soon puts things to rights in the morning. In ordinary weather a safe rule is to keep the water gently moving in the pipes, and ventilate as early as possible in the morning.

I have received several complaints of late about that peculiar Orchid *Epidendrum falcatum*, or *Parkinsonianum*, as it is sometimes labelled. A frequent cause of ill-success and a non-

floriferous state is giving too much heat and moisture with insufficient light, growth being in such cases very fair but flowers conspicuously absent. The best plants I ever had were grown in an almost unshaded position in a house devoted principally to the Mexican section of *Lælia*. These were in shallow wood baskets of small size in comparison with that of the plants, and an open compost of peat, moss, and charcoal.

Ample moisture supplies are, of course, necessary in such a position, as it is important that no check to growth occurs, and when the plant has done growing for the season it must have as long a rest as possible. Keep it cool and on the dry side during winter, and in all probability it will bloom freely on the new growth the ensuing spring. Anguloas that have flowered should be repotted at once, and so should any plants that it is plain are not going to flower this season, for the longer they are left in the old compost the more danger there will be of damaging the roots in the operation.—H. R. R.

Cypripedium × Purum.

In "American Gardening" of March 22 an illustration and description of this cross was furnished. It was then flowering in the Wyndhurst collection at Lenox, Mass. It is the result of a cross between *C. superbiens* × *callosum* Sanderæ, and was bought under the name *C. Purum*. This is the second time it has flowered, but this year it is superior in every way, the plant stronger and the flowers much larger. The dorsal sepal is similar to *C. callosum*, but the radiating green lines are much more pronounced, undoubtedly through the influence of *callosum* Sanderæ, but the general contour and form of the flower resembles *Morganæ*; the influence of *C. superbiens*, however, is particularly noticeable in the petals, the upper half being a bright pea green, lower half almost white at the base, shading to light purple, tips white, the whole irregularly spotted with medium-sized brown spots, becoming smaller and much more numerous at the base, spots on margin hairy; staminode whitish, with green veins, pouch large and bright purple—altogether a beautiful flower.—ALFRED J. LOVELESS.

Growing for Exhibition.

Good dishes of Peaches and Nectarines are always telling in collections, and in the single dish classes such large numbers are generally staged, that it is only the really superior samples that enter into close competition with each other. The great point to aim at is to get very highly coloured fruits of good size, with that beautiful "gloss" on them which indicates high culture, and samples can only be produced by correct treatment from start to finish. The man who starts the season with wood which was well ripened during the previous autumn, and with soil permeated with fibrous roots, should have little difficulty in growing superior fruits, and yet there are many who begin the year with such advantages and yet fail to realise their high anticipations. The principal causes of such partial failures are in my opinion threefold—insufficient thinning of the fruits, improper manipulation of the growing shoots, and too little feeding at critical stages. I, therefore, purpose to advance a few remarks on such matters which I have proved over and over again to be sound.

So soon as the fruit is set, disbudding the young shoots and thinning the fruit should begin. When the wood is somewhat uneven in character it is an excellent plan to disbud the strong branches first; not only those on the upper part of the trees, but wherever they may be situated. The greater amount of growth thus left on the weak shoots will help to draw the sap more strongly in such directions. The weaker shoots can then be disbudded ten days or a fortnight later. Some writers advocate going over each set of shoots—i.e., the strong and weak ones—at least three times, but I have never found any drawback to the practice of completing the disbudding in two operations. Remove about half the young growths on each shoot during the first operation, and at the final one leave a leader to each, with another growth near the base, to form the fruiting shoot next year, the old shoot being removed after the fruit has been gathered. When a vacant space occurs through the dying off of a branch, additional young shoots should, of course, be retained to fill up such vacant spaces; and before a young tree has covered its allotted space extra shoots must be retained near the points of the branches—and sometimes other parts of a tree—so as to cover the available space with wood evenly disposed from 4in to 6in apart. Sometimes there is room on a main branch for a spur, but too little room for a shoot; in such instances allow an extra shoot to grow for a time, then pinch it back closely to form a spur.

Now let me pass on to the management of the shoots throughout the growing season, as this is to my mind a most important matter. Some cultivators complain of the troublesome behaviour of very strong shoots in young trees, but I have never yet met with an instance in which their behaviour could not be corrected by due attention to stripping during the growing season, and occasionally root-pruning slightly, and it can generally be done without resorting to the latter operation. When strong shoots

have grown to a length of 6in or 9in, if their points are removed they will quickly send out side shoots; if the best of such shoots are trained in thinly they will become thoroughly ripened during the season, and the production of a "rank" shoot in that particular case be entirely overcome. Sometimes, however, there is not space enough to train in the side shoots; the growth after stopping must then be confined to one shoot, and although the stopping will check it for a time, it will probably get thick at the base, and again grow very strongly. A successful way to deal with such very strong shoots is a week or ten days after they have stopped to cut them back to their basal buds, while these are starting into growth. The sap will be directed with greater vigour into other parts of the tree, and the shoots produced from those cut back will be of moderate strength only. I have over and over again secured evenly balanced growths on Peach trees by such means.

Let me now turn to the thinning of the fruits. During the first stage of disbudding, at least one-third of the young fruits should be removed if a good set has been obtained, these to include the deformed and badly placed ones. When the fruits are about the size of marbles the thinning may be almost completed. Some cultivators leave large numbers of fruits on their trees till the stoning is completed, because they expect many to drop during that critical stage, but if other points of culture are well attended to, the real reason why fruits drop at stoning time is that the trees are overloaded. And if thinning is almost completed at the time already indicated, no one need fear loss during the stoning period.

The only reason I have written "almost completed" is that at so early a stage it is often difficult to ascertain which fruits will be the best shaped, and which will be the most favourably placed for ensuring full exposure to sunshine. It is also always wise to have a few fruits in reserve, as losses sometimes occur through damage to shoots or fruits in carrying out cultural operations. Those eventually retained should as far as possible be so placed that by being fully exposed to light and sunshine they get evenly coloured on all sides. One good Peach to each square foot of trellis covered with growth was at one time considered a fair average crop, when the fruits are grown solely for exhibition or for other special purposes.

It represents by no means a light crop in the case of such large varieties as Sea Eagle, Barrington, and Stirling Castle, but with moderate sized varieties grand fruits may be produced when the crop averages one to each space of 9ins square. Nectarines may always be left somewhat closer together. For ordinary purposes, when fruits of only moderate size are required, far heavier crops may be obtained. The great point to aim at in all cases is to feed liberally with suitable manures, and to give due attention to watering. These matters I hope to treat of in another issue.—H. D.

[This article is the continuation of a series that appeared in the Journal in the spring and early summer of last year.—Ed.]

Xanthoceras sorbifolia.

Xanthoceras sorbifolia is a tree well adapted to lawn decoration anywhere except in England, being quite hardy. It is not over-particular as to soil, and prefers a sunny position. It is a deciduous small tree, very effective with its flowers—white, red streaked at the base of each petal. It is a native of Northern China, related to the Bladder Nuts and Horse Chestnuts, and further interesting as being the only representative of the genus to which it belongs. Its name is given for the presence, between the petals, of curious yellow horn-shaped glands. It is one of the most attractive of the hardy plants which our gardens owe to northern China, the region from which many of the most beautiful trees and shrubs in cultivation have been brought, and was discovered seventy years ago by the German botanist Bunge, who accompanied a Russian mission which travelled overland from St. Petersburg to Peking. It was not, however, introduced into our gardens until nearly forty years later, when the French missionary David sent it to the Jardin des Plantes, in Paris. In spite of its hardiness and the beauty of its flowers, *Xanthoceras* is still rare in gardens. The opposite pinnate leaves are 8in to 12in in length; the leaflets are alternate, linear-oblong, acute, coarsely serrate, dark green and glossy on the upper surface and pale on the lower. The flowers are produced in great profusion in lateral racemes 8in or 12in long, appearing as the leaves are unfolding. The fruit, which is a Pear-shaped capsule, not unlike that of some of the smooth-fruited Horse Chestnuts in general appearance, finally splits into three valves, and contains a number of globose, nearly black, shining seeds half an inch in diameter. In the "Garden and Forest" in 1893, we read: "From the Abbé David's notes we learn that *Xanthoceras* is a tree 15ft to 18ft high, and exceedingly rare in those parts of China and Mongolia which he visited; that it is cultivated in the gardens of Peking, and that the seeds are eaten by the Chinese." A figure of a noble lawn tree was given in a recent issue of "American Gardening," from which these notes are taken.



Outdoor Chrysanthemums.

With regard to the comments of a recent correspondent, the best blooms, with handsome foliage, cannot be obtained by outdoor culture, but those who are not used to seeing the very best flowers can obtain results pleasing to themselves and friends by potting strong plants into 6in pots the last of May and plunging the pots into the ground. All over three blooms taken will be at the expense of size. Use early varieties. Take the first good bud after August 15, and keep all buds picked off that may appear thereafter. If the plant is allowed to continue to set buds the earlier bud will shrivel, and you will have a plant which will produce only late flowers. Move the pots to shelter upon the advent of killing frosts, which may be looked for at any time after October 1. Plants promising very large blooms nearly out should not be allowed to remain out in big storms. Eelworms can be kept out of the pots by soaking occasionally with clear lime water. Lice can be kept off the foliage and tips by a continuous use of tobacco dust. Mulching the ground with fresh tobacco stems and renewing often will also keep them away. If plants are checked, neglected, or allowed to wilt you will lose the foliage. A far better method, and one that will give astonishing and charming results, is to set your plants out in a solid bed, 8in by 9in apart, and grow to single stems. A bed 5ft by 10ft will contain one hundred plants.—J. J.

The Evolution of the Chrysanthemum.

This now popular flower can hardly be recognised as resulting from the first Chrysanthemums that were introduced something over one hundred years ago, which were simply a counterpart of the common Ox-eye Daisy or Marguerite. They remained in that condition for a good many years, and were distinguished by the appellation of Silver Star or Golden Star, according as the variety was white or yellow. The principal part of the flowers being yellow (and in those days certain superstitious people objected to yellow, as being indicative of jealousy) the Chrysanthemum was not grown much. It was not until about forty or fifty years ago, when the yellow Rose, Maréchal Niel, and yellow Carnations were introduced, that the "mum" was brought more to the front, so that it is greatly to the yellow Rose that it owes its popularity. About this time several of the leading horticulturists took it in hand, and since that time it has continued to make great progress in all ways, in size, colour, habit of growth, &c.; but, said Mr. H. Cannell, of Swanley, in a recent lecture, he was afraid we had come to almost the end of the tether, and one could not expect to go on making such rapid strides in the future as in the past.

The first Chrysanthemum Show was held in 1830, at Norfolk, when the principal varieties were Nonpareil, Norfolk Hero, Tasselled Yellow, &c. This was followed by a show at Stoke Newington in 1836, but the first really good show did not take place until 1840. In 1843 the Pompones came into vogue, and have continued to hold sway; 1868 brought forth one of the most useful varieties grown, viz., Mrs. G. Rundle, and from this have resulted several sports, such as George Glenny, &c. Shows are now springing up all over the country. The society now known as the National Chrysanthemum Society was originally started as the Borough of Hackney Society, and was carried on for some time as such, but having met with such success at Chiswick and elsewhere it was decided to apply for admission to hold shows at the Aquarium. This was granted, and the shows had been carried on yearly till the present. Chrysanthemum and other flower shows were, he thought, in a great measure responsible for the standard of perfection to which vegetables, &c., were brought, a little friendly competition being the means of inducing each individual to try to grow quite as good stuff as his neighbour, and better if possible. Going back to the Chrysanthemum, he had, he said, been responsible for many of the varieties, several having being named after himself, his wife, and family:

Reidia glaucescens.

This is a plant very seldom met with in gardens, and to anyone requiring a change for the decoration of the breakfast or luncheon table they cannot do better than give the above a trial. It is of very neat habit, and flowering as it does the entire length of the leaves, makes it a very interesting subject for the above use. For dinner-table it is of no use whatever, owing to the foliage drooping in the evening.—S.

On Fruit Production.

So much space in the horticultural press has during recent years been devoted to matters connected with fruit-growing that I have sometimes refrained from recording many of my ideas on the subject, through fear that other branches of gardening should in consequence have too little attention. Of one thing, however, I am absolutely convinced—viz., that notwithstanding all that has been written upon the matter, the "forward movement" in connection with planting and cultivating fruit trees is too insignificantly little in comparison with the needs of the hour. For this reason I welcome the forcible and suggestive remarks of "Herefordshire Incumbent" on page 289, and I entirely agree with his assertion that the enormous importations of fruit which are sent to us from foreign lands are a reproach to the industry and intelligence of English people. What is wanted at the present time is a great and combined effort which will have the effect of ensuring the planting and good culture of fruit trees in such quantities as to considerably lessen each year the big fruit bill we now so foolishly pay to foreigners. Pessimists are ever ready to raise a warning finger about over-production, but when we see our imports increasing instead of diminishing, it shows clearly that we are falling back rather than advancing in the effort to provide our own supplies of certain fruits which can be grown better in this country than anywhere else. When I say "certain fruits," I refer principally to late Apples, and some varieties of Pears. In regard to the former, there are splendid opportunities for cultivators to make a speciality of kinds which can be placed on the market from Christmas to the end of April, as well grown samples are always in great demand at remunerative prices, and we have in this country at the present time a few grand varieties suitable for the purpose.

In warm districts Pear culture might with advantage be greatly extended, as splendid results may be obtained by growing Doyenné du Comice, Williams' Bon Chrétien, Louise Bonne of Jersey, Doyenné d'Été, and Beurré Hardy, as pyramids. And there is always a good demand for stewing Pears. The great point is to feed the trees well when they are carrying heavy crops, and also to thin the fruits of large growing varieties. "Herefordshire Incumbent" has wisely pointed out the difficulties which bar the path of progress in regard to obtaining suitable land, and I know it does exist in many instances, but to my mind the greatest difficulty of all is to get men with capital to embark in fruit growing to anything like an adequate extent, and yet when the work is well conducted I know of nothing connected with the land which pays the life holder better, taking one year with the other. One word more about the difficulties of obtaining land. These, to my mind, frequently only exist in consequence of misconception; certain counties, such as Kent, Herefordshire, and Worcestershire, have too long been regarded as having special qualifications for fruit culture which other counties could not approach. The sooner this idea is dispelled the better, as I have seen as fine crops of Apples produced in Hampshire, Wilts, Somerset, and Warwickshire as in the most favoured districts of Kent. In one respect I claim that in some parts of Warwickshire fruit crops generally can be grown with greater certainty than in Kent, for the simple reason that less damage is done by late spring frosts.

Another point I have studied closely during the last two years—and I have had excellent opportunities of doing it—is the kind of soils adapted for fruit growing, and I am firmly convinced that far too much stress has been laid upon the necessity of selecting a soil answering to the cut-and-dried descriptions so often advanced as being necessary. I have travelled a good many miles to see fine crops of Apples, Plums, and Pears, and one point which has impressed me as much as anything in connection with them is the widely different types of soils in which such fruits were growing splendidly. Any fairly good soil of moderate depth will grow such crops well, provided it is naturally well drained, and stiff clays, when artificially drained and thoroughly worked for a year or two, will grow grand fruit. The great point is to be thorough in preparing the soil before planting, and in feeding liberally when once the trees begin to bear good crops. In some cases feeding is necessary to get young trees to grow away satisfactorily before they begin to fruit. Judgment is required in all such matters. Much can also be done by selecting varieties which are known to succeed in particular districts, as the behaviour of Apples and Pears is most erratic in this respect. If would-be British fruit growers would take a somewhat wider range in their search for land, instead of confining their attention to certain counties, I do not think they would have much difficulty in getting the requisite amount of really suitable land in good situations, without paying "fancy prices," but I shall be much surprised if the present price of land in certain districts I know of is not doubled in the near future.

It seems to me that before we can cut off a large proportion of foreign supplies of Apples and Pears it will be necessary for men with a considerable amount of capital to embark in fruit

growing on a big scale, and why enterprising capitalists have not yet turned their attention to the matter in a really serious manner I cannot understand, as the security for the money invested would be infinitely better than in the case of half the industrial schemes which at the present time find plenty of supporters. Owners of land might, I think, also do a great deal to further the work, and at the same time benefit themselves, by the following means:—Planting on their estates from ten to twenty acres of fruit trees under the direction of an expert, and then either letting such plantations at once, or retaining them for a few years to lay a proper foundation to the trees, before letting to a good tenant just as the trees were coming into bearing. In either case the amount of rent obtained over that received for ordinary agricultural land would return splendid interest for the money invested. To anyone inclined to doubt this point I say, Try to rent an extensive orchard in good condition, and find out from experience the price one would have to pay. In many cases, I know, the owners of estates can ill afford the money to carry out such improvements, but in hosts of instances there is plenty of money at command, and a good many twenty-acre lots of fruit plantations might with advantage be established on such estates. To give good tenants encouragement, and to allow them to reap the reward of their labours, short leases should be arranged, with a distinct agreement that the lease could be extended at the wish of the tenant. Some might argue that this would be putting too much power in the hands of a tenant, and might be abused. To that I reply that the tenant would have to give the trees proper attention to make the business pay (as inferior fruit is not wanted on the market); if he failed to do that the short lease would give him an early opportunity to quit, and leave the way open for a more suitable tenant. This course would be the best for all parties concerned.

On the other hand, if a tenant found the business was paying, he should certainly have the option of renewing his lease, and the landlord ought not to be dissatisfied at having turned his land to such good account. I should also like to see plantations of from four to six acres established and let to deserving tenants. I am quite sure that plenty of suitable ones could be found, and when they were thus directly interested in fruit culture, would evince a greater desire to take advantage of the facilities afforded by our County Councils for acquiring an up-to-date knowledge on such matters. The whole thing, if worked on business principles, would be a financial success to all parties concerned. It would create renewed interest in village life, and awaken into active usefulness the splendid material which in country districts is continually drifting to the towns because there are here too few outlets for the energy and aspirations of humanity to-day. The consequence is that the weaklings fall when the time of trial comes, and our hospitals, prisons, and workhouses are filled to overflowing.

The three great points that all interested in this matter should keep constantly in mind are: First, that Apples and Pears can be grown splendidly and profitably in this country; second, that there is plenty of land suitable for the purpose which is not at present turned to profitable account; third, that we are paying millions of money annually to other countries for produce we could grow better at home, and in doing so provide healthy employment for tens of thousands who at present are forced into the cities. The other important matters connected with the subject, viz., railway rates, co-operation, and the use of motor power, will, to my mind, be arranged satisfactorily before long, because under the pressure of co-operation and the competition of the motor, the railway rates will come down sharply. I repeat, the crying need of the hour is a "combined effort to plant on a big scale."—H. D.

Apple, Mannington's Pearmain.

All authorities appear to unite in giving this Apple a fine character, and it affords another instance that old Apples are among the best we grow. It was distributed in the forties by Mr. Cameron, a nurseryman of Ipswich, though it originated about the year 1770. Mr. J. Mannington, a butcher, at Uckfield, after whom it was named, communicated the fact that it was found in a hedgerow, a small scrubby tree, on a spot where a cider mill and press were formerly worked, and it is supposed to have been produced from a pip among the pulp thrown away after pressing. The tree maintained a stunted growth until it died in 1820. But previous to this Mr. Mannington, who thought it an Apple of the best quality, distributed grafts in the locality, and in the autumn of 1847 sent fruits to a meeting of the Horticultural Society, and they were pronounced by Dr. Lindley and Mr. Thompson to be a dessert fruit of the highest excellence. Mr. Mannington stated on one occasion he had kept it in good character up to the middle of May. It is a good hardy Apple, and yet the tree does not attain to a large size. Mr. Geo. Bunyard describes this Apple as in use in November and December, "medium size, flesh yellow, rich, sugary, and tender, abundant bearer; requires well-drained soil; delicious." Higher praise can scarcely be given to an Apple.—R. D.

Alpine Auriculas.

These charming easily grown flowers are becoming greater favourites every year, and deservedly so, for the variety of colour is so great, their fragrance is so delicious, and the quality so much improved of late years, that flower lovers cannot help but admire them. The labours of Messrs. Gorton, Pohlman, and Beswick in the North, and Messrs. Turner, Douglas, Phillips, and Keen in the South, have turned the frilled and notched flowers of twenty years ago into smooth, circular, regular varieties that no florist can despise. The Auricula Societies now recognise the Alpine, and encourage its cultivation by offering prizes equally with the show varieties. A great advantage that presents itself to an amateur wishing to start growing Alpines is that he need not empty his pockets and wait years before he can get together a first-rate collection, as he must do if he tries to get a collection of show Auriculas together.

The best varieties, such as Judith, Duke of York, Mrs. Gorton, Patience, Mrs. M. Smith, Mrs. Correll, Pluto, amongst others, can readily be got, and the amateur, by raising seed from these, will in two or three years get many good varieties. Raising new Alpines is a far easier and a far more satisfactory business than raising new show Auriculas. The seedlings bloom earlier, and there is a larger proportion of good things in Alpines. Careful cross fertilization is, of course, essential to success. I find it best to cross yellow grounds that are permanent with permanent yellow grounds, and cream grounds with cream grounds. I have made the following crosses lately:—

Thetis × Exonian for white centre and blue purple edges.

Mrs. Gorton × Duke of York for yellow centre, red and scarlet edges.

John Allen × Duke of York for yellow centre, red and purple edges.

Roland × Mrs. M. Smith for yellow centre, brown and tawny edges.

Bright Eyes × Mrs. M. Smith for yellow centre, salmon, brick brown edges.

I do not consider Bright Eyes, Roland, and John Allen first rate sorts, but I have found them very useful as seed parents. Exonian is not liked in the South, but from its distinct purple and lavender edge I consider it as a valuable kind to cross with such varieties as Patience and Thetis. The idea in seedling raising ought to be to get the reds more scarlet, the browns more rich, the blues bluer, as to the edge. There is no reason why this should not be done. It would also be very desirable if we could get the blues with a good yellow centre and the scarlets with a good white centre, but I don't think that this will ever be accomplished, as pure blue seems to be incompatible with a good yellow centre, and scarlet seems to need the yellow ground for its composition.—J. W. B.

Certificated Plants.

(Continued from page 323.)

Time was when Nerium Oleander found a place in almost every greenhouse, where it was wintered, but often stood out in the open during summer to bloom. As far back as 1874 Messrs. E. G. Henderson and Son, then at the Wellington Road Nursery, St. John's Wood, received a Certificate of Merit for Dr. Golfin, and it may be assumed that improvements commenced a few years previously, the French florists raising several varieties, the most conspicuous being Professor Ducharte, Madonna grandiflorum, Mons. Balaguer, and Sœur Agnes, all of which were awarded Certificates of Merit during the early eighties; but their culture appears to be now of a limited character.

Nicotiana.

When, a few years ago, sub-tropical gardening was more popular, or more generally followed, the varieties of the common Tobacco were much employed on account of their bold and handsome leafage. They are still cultivated in borders for the same reason; and though so useful, but few have obtained the distinction of awards. Even *N. affinis*, the delicious Night-scented Tobacco, now so much grown, has never been recognised, useful as it is. *N. collosea* is a gigantic form of a large-leaved Tobacco, which makes an imposing garden plant, and a variegated form of it obtained an Award of Merit in 1893, though, as is the way with some variegated forms of common plants, it was not persistent, and it is scarcely seen in seed lists now. *N. sylvestris*, regarded as a distinct species, is a comparatively new annual form, and produces long pure white highly fragrant flowers. It received an Award of Merit in 1899, when shown by Mr. J. Hudson.

Nierembergia.

Many years ago, *Nierembergia gracilis* and a similar form, *N. filicaulis*, were popular pot plants for the greenhouse, and were also employed as edging plants to large vases on terraces and in flower gardens. *N. Veitchi*, a branching prostrate form from South America, gained a Certificate of Merit for Messrs. Veitch and Sons, but appears to have largely gone out of cultivation with the other two. *N. rivularis*, sometimes termed the "Cup Flower," is a hardy perennial, which does well planted in

a sunny border near a wall, or on rockwork. This received a First Class Certificate of Merit when introduced from La Plata by Messrs. Veitch and Sons in 1866. It requires a fairly moist position, where it freely produces its large white cup-like blossoms.

Nymphaea.

The growth in numbers of the group of hardy Water Lilies has been something phenomenal during the past ten years, and that they are becoming very popular is shown by the demand for plants with which to decorate the edges of ponds and stretches of ornamental water. In this country, as in North America, the culture of these Lilies has rapidly extended; the range of colours they present varies from shades of crimson, rose-pink, yellow, cream, and pure white. M. Marliac has produced some wonderful varieties by means of intercrossing some of the most popular hardy species. In 1851 M. Ortgies obtained seeds from *N. rubra* crossed with another species, and two years after M. Bouché, of the Berlin Botanic Garden, raised a pretty hybrid. But nothing new appears to have challenged the attention of the Floral Committee until within the last ten years. In 1895 *Laydekeri rosea* (Veitch), *Marliacea chromatella* (Veitch), and *odorata rubra* (Veitch) received awards. In the following year *Marliacea carnea* and a species named *Robinsoniana* were so honoured, both shown by Mr. James Hudson, Gunnersbury House Gardens, who has formed a large and valuable collection of hardy Water Lilies, as well as one of the tender species and varieties. Since 1896 *Gloriosa* (Hudson), *Marliacea albida* (Hudson), *Marliacea flammea* (Hudson), *Sulphurea grandiflora* (Hudson), *Odorata rosacea* (Hudson), with *Marliacea ignea* (Freeman-Mitford) have all gained awards, in addition to others since the publication of the list of certificated plants. English and American catalogues now give descriptive lists of some forty or more varieties.—R. DEAN, V.M.H.

The Grange, Bishop's Stortford.

Bishop's Stortford is in Hertfordshire, but lies very close upon the sunny meads of Essex. One feature that struck me more than any other was—quite a minor one—the luxuriance of the wild Violets all over the district. Now, that may seem an immaterial little fact to call attention to, and yet a long and beautiful sermon might philosophically be concocted upon the theme of wild Violets and their attributes. But being busy, or lazy, or both, I cannot write that sermon, though I can remark that only in healthy soils, and with healthy air, do we ever find the sweet little Violets thriving luxuriantly. And Conifers do well at and around Bishop's Stortford, while Roses are strong and plentiful. Both of these are found in some quantity at Mr. J. B. Barker's residence, the name of which heads this article, and is doubtless the best known, as it is the principal estate near by the township. Lying about one mile from the centre of the town, this estate, consisting of the private grounds and farms, commands a breezy stretch of Hertford scenery, and the house itself receives dignity from its pleasantly elevated site. Mr. Barker, in common with Sir Richard Gilbey, and other relatives in the district, takes an enthusiastic interest in the town of Bishop's Stortford, and I was shown whole streets that these two gentlemen had been instrumental in remodelling and improving. Then the agricultural experiments that are carried on are noticed and appreciated far and near, though Mr. Barker's special pride in this direction is in horse-breeding, his stud being both extensive and of renowned quality.

He enjoys his garden, too, and so does Mrs. Barker, though, being invalided, her wonted activity is reduced meanwhile. And it is a pleasant garden, comprising on the west side a large park of about eight or nine acres. This is divided from the more immediate surroundings of the house by a Ha! Ha!—a sunk-fence. The whole surface of the park is kept smooth by mowing and firm by rolling. Here it is that the local flower show and fête is yearly centred, for Mr. Barker likes to welcome the townsfolk within the precincts at least once a year. His gardener, by the way, has a capital record, as a rule, at this show, though contesting against the produce from gardens throughout Herts and Essex. The presence of well-balanced, trim, and shapely Sequoias* (or Wellingtonias) and Pine trees, Planes, and Elms

* *Apocrypha* of the name Sequoia and its synonym, Wellingtonia, there is an interesting story attached. These "big trees" of California were first discovered in 1841; but specimen cones and seeds of them, together with descriptions, were not brought to England till late in the autumn of 1853. The materials brought home were placed in the hands of the late Dr. Lindley for determination, and he, being the tree to be generically distinct from the Redwood (*Sequoia sempervirens*), created a new genus, which he named the Wellingtonia. This name, he said, being that of the greatest of modern heroes, was the most appropriate for the most gigantic tree that had been revealed by modern discovery. The name was challenged, however, both by Americans and Europeans. The former stoutly objected to their greatest tree being named after our English general; and, finally, after considerable discussion, it was agreed to adopt for the genus the name of a tribe of American Indians, the Cheroukees (?). The characters of the genus were found too closely to approximate with those of the Redwood, and this also made the alteration inevitable.—W. W.

in the park furnishes commendable relief, and adds considerably to the general luxuriance and adornment of the estate. Within the area of the park lies the tennis-green, said to be one of the finest in the country, and of which the illustration affords a bird's-eye glimpse.

The Grange house is quite modern, and was a college some forty-five years ago. Numerous additions and alterations since then, however, have entirely transformed the appearance both indoors and out. The exterior walls are closely covered with Ampelopsis and other suitable climbers, whilst smoothly shaven lawns, with their Rose beds and borders, specimen Conifers and shrubs, encompass the south and west fronts. The entrance drive approaches from the east side, and to the north of the mansion are the conservatories. In all there are eleven glass houses, comprising a Peach house, two flowering houses or "show" conservatories, Cucumber, Rose, Melon, and Orchid houses, plant stove, two vineries, a long Peach case, and quite a number of pits and frames, all of them nicely stocked and kept in the best possible condition by Mr. George Becch, the head gar-

very famous Euphorbia (syn. Poinsettia) pulcherrima, whose twenty-five years' growth has evidently been vigorous and little suppressed. It covers many square yards of surface, and always has some of its scarlet bracts to show. The contorted limbs are 3in or 4in thick, and numerous interweave. The Roses are all very sweet, and flower splendidly; and the old Cestrum, or Habrothamnus, so-called, drooping over the steps leading into the "black" vinery, is a sight at all times good and refreshing. Cyclamens, Cinerarias, Primulas, Begonias, Heliotropes, Zonal Pelargoniums, Richardias, and pot Carnations are among the specialities at The Grange, and each is finely represented. Violets in frames grow so profusely that basket-loads can be picked every week during the winter. The Vines and Peaches (some of the latter planted out) are quite a credit to the gardener, and both Mr. and Mrs. Barker must often delight in viewing these fine houses.

Since Mr. Becch assumed his charge at The Grange six years ago, he has been instrumental in altering, for the better, some parts of the garden, particularly in making a beautiful, broad,



The Grange, Bishop's Stortford.

dener, and his assistants. The long, unheated Peach case gave me much pleasurable interest. Running, as the boundary wall does, for a distance of about fifty paces, the case forms a lean-to glass structure 9ft high at the back, and sloping downward to a very low brick front; in breadth it may be 10ft. The ventilators are placed at intervals between the bricks. Within this very useful case at the present time the small standard Peach and Nectarine trees furnish a beautiful display of blooms, while Cherries, Peaches, and Apricots are trained to wires on the back wall. Messrs. Weeks and Co., of Chelsea, were the builders, and it would be well for gardens everywhere to have such an essentially useful case as this. Here, on the borders in which the trees are planted, there are early vegetables, such as Peas, Lettuces, and Parsley, with the addition of Mustard and Cress; while Cauliflowers and Cabbages for spring planting are also pricked out. These will be cleared off before heavy syringing is necessary, and the borders are then free during the summer.

From this Peach case a warm corridor, with Rose-covered walls, leads to the Orchid house, in which there are some shapely Lælias and Cattleyas. From the roof of this structure hangs a

and winding walk, with Rose borders on either side, which leads from the glass houses to the park. Espalier fruit trees have been planted at the back, and already are yielding returns. The same walk is continued all the way round the park. No mention has been made of the kitchen gardens, for these are isolated, and lie at a distance from The Grange. Such is a brief description of this delectable residential demesne. The town of Bishop's Stortford is not specially interesting to the stranger, though its history dates back to the fifteenth century, when St. Michael's Church was first erected (1431), for the purpose of protection, doubtless, and as a local centre for the Staplers and other traders. This picturesque and impressive edifice stands on the Windhill, one of the highest parts of the town, and its tall spire is a land-mark for miles around. Within the steeple there are ten bells—a wonderful peal. The name Bishop's Stortford is perplexing until one learns that there is a river (it is called a "river") Stort. It is natural, then, to mix the component parts of the name, and say the Bishop's ford on the Stort, and that is just what Chauncy's "History of Hertfordshire" tells me is the derivation.—WANDERING WILLIE.

Notes on Violets.

(Concluded from page 291.)

When I first thought of writing these notes on Violets it was not my intention to say much about their cultivation, but to confine my remarks to some of the difficulties met with in growing this popular flower. As there has not much appeared on this subject lately in the *Journal*, perhaps it may be of interest to some readers if a few cultural hints are given. The present time will be the flowering period. Double varieties will be accommodated in frames, or protected by lights being placed over them on sunny borders; while the single varieties, being more hardy, will flower well in warm, sunny situations in the open, under walls, and in such like situations.

To get the best results, however, during the colder part of the season, frame culture is best. The time will soon arrive when propagation generally takes place—that is, directly after flowering. Some perform this work in the autumn, and one lover of these flowers, an amateur, known to the writer, who grows only single varieties, inserts cuttings at several different times, and considers he obtains a longer flowering season. Autumn propagation is effected by taking cuttings from the plants about the time of transplanting them to frames. They should be inserted in sandy soil in a frame, and kept close until rooted. Air should then be admitted gradually; finally the lights may be removed altogether, excepting in very wet or frosty weather. During suitable weather in the spring they must be transferred to their summer quarters.

Spring propagation may be carried out in a similar way. I am aware that many do not go to this trouble; and where Violets flourish, and in warm localities, it may not be necessary. The plants are simply divided and transferred at once to the open ground. In some districts Violets grow with great freedom, and bloom well with very little trouble; but in other cases they are very difficult to deal with. Where the damping disease causes trouble, it is much the best to propagate from single crowns or cuttings. If the plants are divided in rather large pieces, they grow into very large clumps by the autumn, and the disease is more difficult to deal with than when the plants are smaller.

I find it much the best to insert the cuttings or divisions in frames. At this time of the year cold dry winds are frequent, and numbers succumb when they are planted in the open border. The frame should be in a semi-shaded position, and should be kept rather close until they are rooted. They will very soon make nice plants to transfer to their summer position. If a situation can be afforded where the sun will be off, say, about two or three o'clock it will be an advantage. Water can be given more conveniently either at the roots or in the form of damping overhead. A north border is favoured by some, but here the sun shines till late in the afternoon or evening. Having tried both situations, I prefer the former, not only for Violets, but other things as well. The double varieties may be planted about 12 in apart from each other, and the same distance between the rows. Most of the single kinds grow stronger, and should be allowed more room.

The summer treatment will consist of keeping down weeds, which is best done by the Dutch hoe. Indeed, the hoe should be frequently used, as thereby a loose surface soil is obtained. Some hold the opinion that this is more important than watering. But both are necessary. It is much better to give a thorough soaking when water is applied than to give it in small quantities that never reach the roots. A mulching of decayed manure or leaf soil will greatly benefit the plants, and also lessen the labour in watering. During hot dry weather a damping overhead in the evening will greatly freshen up the plants, and will also help to keep at bay that troublesome insect, red spider. On light soils much injury is caused by this pest. Where water alone will not keep it down, recourse must be had to spraying with some insecticide. Soot and sulphur mixed, and dusted over the plants occasionally, is also a good thing to use. The soot will also improve the growth of the Violets.

Runners must be removed during the summer, so that the whole energy

of the plants may be utilised in forming good plump crowns that will produce an abundance of flowers. It is not a good plan, however, to remove every runner that is formed. If one or two are left on each plant, they will develop into suitable pieces for increasing the stock the following season. The best time for lifting the plants and putting them in frames is from the middle of September to the same time in October. Some prefer this operation done later. But at the earlier date the soil is warm and the plants will soon push new roots, which will help to fortify them for the winter. Care must be used in planting not to break the leaves or damage the roots more than possible. Keep the crowns well above the soil, the plants just clear of each other, and about 6 in from the glass. Air must be afforded on all favourable occasions; indeed, the lights may be removed except during very wet or frosty weather. All decayed leaves should be removed, and the surface soil kept loose.

There are so many varieties of Violets to-day that it is perhaps difficult to say which are the best. As far as the double varieties are concerned, I must admit that if confined to one variety, it would be the old Marie Louise. I consider it the best all-round Violet in cultivation. Coolcronan is a desirable variety, a beautiful blue colour, paler than Marie Louise, and blooms well in the spring. Comte Brazza is a beautiful double white, but in many districts it is found difficult to grow. It does not succeed here. Mrs. J. J. Astor is a useful variety, but its colour does not recommend it—a pinkish purple. Amongst single varieties some of the best are Princess of Wales, La France, California, the old Victoria Regina. A newer one, "Victoria," produces abundance of flowers in spring of a beautiful blue, but they have not the substance of most of the others. Where a collection is desired, the smaller-flowered kinds may be added, such as sulphurea, the common white, and red. All these produce a mass of flowers, but are not so useful as the larger flowering varieties.—J. S. U.

[That the Violet flourishes in some districts, as our correspondent points out, is a well-known fact; yet in localities where the wild Violet thrives vigorously, the cultivated plants are sometimes most stubborn and unprolific. Has "Mr. Raillem" or other growers anything to contribute on the point? Exception might be taken to "J. S. U.'s" statement regarding the colour of J. J. Astor Violet, which he says does "not recommend it." The new sulphurea is appreciated because of its novelty, but we fear it is very delicate. A pink Violet is reported from America. Soon we may expect to have all the colours of the rainbow.]



Violet, Princess of Wales.



Shakespeare and Crocuses.

Although Shakespeare does not mention the Crocus by that name, he does not omit references to it in his works, as seems to be supposed, since he speaks of the Saffron, the common name in his time for all the Crocuses, and even for the Colchicums. The references in the "Comedy of Errors," "Winter's Tale," and "All's Well that Ends Well" appear to apply to the product of *Crocus sativus*, then long cultivated for its stigmata, which were used as a medicine, a dye, and a confection. The following quotation from "The Tempest" is not so clear. It is:

"Who [i.e., Iris], with thy Saffron wings upon my flowers
Diffusest honeydrops, refreshing showers."

If the correspondent of the "Daily Chronicle" (see page 291 of our issue for April 3) should chance to see this, he might well procure Canon Ellacombe's "Plant-Lore and Garden-Craft of Shakespeare," which will give a great deal of information worth knowing.—S. ARNOTT.

Early Wasps.

I read under the heading "Early Wasps," in a recent issue of the Journal, that last year there was an unusually small number of wasps. I must differ from your correspondent, "W. G.," for about here, the West Riding of Yorkshire, we were simply eaten up with them. We had whole trees stripped of their fruit in a day or two; I saw as many as fourteen to twenty wasps hanging on one individual Cherry. Traps that we hung about did not seem to lessen them in any way, and one day I, with an assistant, took twenty-four strong nests, and two and three on other days. I may say that the gardens were almost surrounded by coverts, and that made it awkward to locate the nests. For the benefit of those who do not know how to locate a nest, I will explain that one should watch a wasp leave the fruit it has been devouring, and it most surely will make a "wasp" line for its nest. Go in pursuit, and by standing about where you lost sight of the homeward wasp, you will soon see others coming and drop straight on the entrance to their nest. I also found the best method of digging them out was to procure some "E. C." gunpowder, which fuses when not compressed, and to scatter a small quantity down the hole. Have a turf ready; ignite the powder; put the turf on; and it is certain death to all the insects that are at home. I do not advise killing any that may be about the hole, for the slightest noise alarms them. They take no notice of any one if they will go about their work quietly.—PONGO.

An Excellent Alpine Plant.

Amongst that polygenous order of many useful decorative garden plants, several of the Veronicas claim a foremost position, and as one eminently suitable for the rockery garden the hardy evergreen sub-shrubby species, *Veronica cupressoides*, a native of New Zealand, ranks high. This is not so much, however, for its interesting diminutive violet coloured flowers as for the persistent evergreen foliage. Strangely, though, it is remarkable that the plant is comparatively little cultivated. The maximum height of its growth is about 6in. The closely adpressed tiny leaves encompassing the branchlets gave rise to its suitable specific nomen, *cupressoides*, and, verily, to the uninitiated it is difficult to distinguish the plant from some dwarf species of Conifer, unless when in flower. It propagates readily from layers or cuttings, also by large divisions of the branches inserted in the open ground, when, in the course of a few weeks a mass of rootlets appear. One of the best examples extant of its culture in this country is in the Botanical Gardens, Edgbaston, Birmingham. Several compact masses of it embellish the "Nettlefold" Alpine rockery there, and more especially during the winter and the earlier spring season, when comparatively few of the Alpine plants are in flower, this bright green Veronica suggests an emerald precious stone upon its rocky "setting." In the Edgbaston garden some of the plants spread over a space several feet in circumference down the face of boulders. Another somewhat similar species of *Veronica* from New Zealand is *Hectori*, and of which there is a solitary plant at the Edgbaston

gardens, and it appears to be equally hardy with *cupressoides*. Its habit, however, is very distinct, being much less bushy and compact, with elongated whipcord-like lateral branches, strikingly suggestive of one of the Horsetails (*Equisetum*) in the appearance of the cylindrical branches. In conclusion, it may be remarked that there is also a variety by the name of *Veronica cupressoides variabilis* (syn. *V. salicornoides*), and several other species natives of New Zealand.—W. G.

The Bothy: A Suggestion.

We sincerely trust that our readers will respond to the following suggestion contained in the letter which we herewith print from a London wholesale florist, and who desires us not to divulge his name in the meanwhile. The letter says:—"I have been very interested in your articles re bothies and gardeners. I think it would be as well if you could arrange to give some further particulars and illustrations as to design and construction of the same, and I should be quite willing to give a prize, say of three guineas for the best design suitable for accommodating six men." We promise to give the matter the consideration it requires during the ensuing week, and will express ourselves in our next issue.

Hypericum humifusum.

A correspondent, "H. R.," page 324, asks for information of a plant under the above name. It is generally distributed over this country, and he should not have much difficulty of finding it in Kent. I have a specimen gathered several years ago in an adjoining county—Sussex—about six miles from Tunbridge Wells, near a village named Hartfield. It is a trailing plant, with small oblong leaves. The flowers, which are pale yellow, are not produced as freely as they are by most of the other species. Shall be pleased to send "H. R." part of my specimen if it would be of any use to him.—J. S. UPEX, Wiggantherpe, York.

Gardeners and Their Studies.

I would like to add a few remarks to the letter of "H. R., Kent," re field botany and bothytes. Four years ago I was in a bothy in the Midlands where the foreman and one or two others (including myself) used to spoil a good many flowers in trying to see what they were made of. However, we did not get on much, as nobody amongst us knew anything about botany; but once started I wanted to know more about it, and in the winter of 1900, being in Birkenhead, I joined a botanic class, in which, under an able instructor, we had some very pleasant and instructive meetings. In the summer months we had field meetings on Saturday afternoons for the purpose of collecting plants, and several of us found it no hardship to start work at 4 a.m., in order to attend the meet; of course we were laughed at by some, but I do not think that out of fifty members, "males and females," there was one who had occasion to regret going out. I spent some of the pleasantest hours of my life whilst collecting, and am very proud to say I have got a botanic certificate. Now, alas! I am miles out in the country, and none seem to trouble whether wild flowers grow or die. The answer I generally get when asking anybody's opinion is, "it's all rubbish;" so I shall have some lonely rambles with only my "Oliver," &c., for companion. Truly there is room for improvement somewhere.—A JOURNEYMAN.

Fruit in France.

The Gooseberry and the Grape may both be seen growing successfully in alternate rows in cottage gardens between Calais and Paris, and anyone travelling forty-five miles beyond Paris, on the Marseilles Railway, to Thomery, will see the vineyards which supply Paris with 30,000lb weight daily throughout the autumn with the delicious Chasselas de Fontainebleau dessert Grape, grown in the open air, not to mention fields of other sorts grown for wine. In the gardens, woods, and on the roadsides close by one may also see Gooseberries and other hardy garden fruits, the common wild Scotch Bramble, and the Elderberry (*Boortree*) bearing crops of excellent fruit. I have still the notes made in a stroll over the vineyards more than twenty years ago about these fruits, and it may interest some to know that the fine hedges planted there for protection consisted of the common Spruce.—N. B.

The Pansy.

There are three classes, 1, Selfs, all of one colour. 2, Having yellow, orange, sulphur, or straw-coloured ground with margins of maroon, crimson, chocolate, bronze, puce, and their intermediate tints. 3, Having a white ground, with margins of purple, blue, mulberry, and their intermediate tints.

CHARACTERISTICS OF A GOOD PANSY.—Many have written upon the characteristics which belong to it when really a superior flower, and their opinions are combined in the following:—1. Each bloom should be nearly perfectly circular, flat, and very smooth at the edge; every notch, or unevenness, being a blemish. 2. The petals should be thick, and of a rich velvety texture. 3. Whatever may be the colours, the principal, or ground colour of the three lower petals, should be alike; whether it be white, yellow, straw colour, plain, fringed, or blotched, there should not in these three petals be a shade difference in the principal colour; and the white, yellow, or straw colour should be pure. 4. Whatever may be the character of the marks or darker pencillings on the ground colour, they should be bright, dense, distinct, and retain their character, without running or flushing, that is mixing with the ground colour. 5. The two upper petals should be perfectly uniform, whether dark or light, or fringed or blotched. The two petals immediately under them should be alike; and the lower petal, as before observed, must have the same ground colour and character as the two above it; and the pencilling or marking of the eye in the three lower petals must not break through to the edges. 6. If flowers are equal in other respects, the larger, if not the coarser, is the better; but no flower should be shown that is under one inch and a half across. 7. Ragged or notched edges, crumpled petals, indentures on the petal, indistinct markings or pencillings, and flushed or run colours, are great blemishes; but if a bloom has one ground colour to the lower petal and another colour to the side ones, or if it has two shades of ground colour at all, it is not a show flower. The yellow within the eye is not considered ground colour.

A suitable situation is the chief point in its cultivation; this should be one sheltered from all cutting winds, as these often kill the plants by twisting them about. The situation should be open to the free circulation of the air, and exposed to the influence of the morning sun, but protected from the midday sun; cool and moist, but thoroughly drained, for although the Pansy requires considerable moisture during the blooming season, and through the summer months, yet it is very impatient of superabundant moisture.

The soil should be rich, and tolerably light. Decayed Cucumber-bed dung is better than any other manure, and the soil which suits best is a light hazel loam, thoroughly mixed with a good portion of decayed turf from pasture land, by frequently stirring and digging, and to three barrow-loads of this soil add one of the Cucumber-bed manure two years old. Manure water, particularly guano water, applied during the blooming season, is very beneficial.

Those who intend to grow the Pansy for exhibition should select young plants well established from cuttings for the purpose. For the spring exhibitions in May and June, select plants struck the previous autumn, in August and September; and for the autumn exhibitions in September, select plants struck early in the spring; and after these have produced their blooms, save them for store plants, to produce cuttings, always having a constant succession of young plants for the purpose of blooming.

The propagation of the Pansy is very easy. The young side shoots are to be most preferred for cuttings, as the old hollow stems seldom strike freely, and do not grow so strong. For spring blooming, take off a sufficient quantity of these side shoots in August or the beginning of September, and for autumn blooming in April and May; these insert either under handglasses, or in pots placed in a cool frame in some good light compost, mixed with a good quantity of silver sand, taking care to keep them moderately moist, and shading them from hot sun.

VARIETIES.

The following dozen varieties of exhibition Fancy Pansies are recommended by Mr. William Sydenham, the Tamworth grower, as being the best:—

Col. M. R. G. Buchanan (1896).—Immense dense rich dark brown blotches, margins amber, top petals shot violet and amber.

Councillor Waters (1899).—Immense blue blotches, edged creamy white and heliotrope; upper petals heavily splashed with dark heliotrope.

David Gold Mackay.—Fine deep plum blotches, laced rosy crimson and edged white; upper petals rosy crimson; an extra strong grower, large and fine.

Mavourneen (1899).—Dense violet blotches, edged lemon and magenta; upper petals lemon with purple pencilling, heavily banded with magenta.

Miss Neil (1899).—Large, circular velvety blotches, edged white with distinct lacing of bright crimson.

Neil Mackay (1898).—Circular dark blotches, edged golden yellow; top petals yellow, flaked with bright crimson.

Robert C. Allan (1898).—Dense plum blotches, edged crimson and sometimes tinged white; upper petals crimson, tipped white.

Tamworth Herald (1896).—Very similar to "Marmion" in the summer, but early in the season a much richer and more distinct flower. "Marmion" has dense violet blotches, laced with rosy white; upper petals lavender, shaded rose and white.

Tamworth Yellow.—Pale yellow self, deep black, well-formed blotches. This Pansy is much admired, and has obtained a First Class Certificate. It is strongly recommended as the best summer flowering variety extant; the sun does not destroy the colour.

Tom Watters (1897).—Dense glossy blotches of such colour as would be produced by purple on a red ground, the red showing in a glowing circle round the blotch; lacing, rich yellow; top petals banded with light maroon, shot with red.

Victoria (1898).—Very perfect purple blotches, edged white.

William Terry (1902).—Seal brown velvety blotches, edged deep yellow. This is one of the finest Pansies ever sent out, with ideal markings, and the flower perfect for exhibition.

The following are also very fine sorts:—Alice Bidwell: Blue purple blotches on a white ground. Archie McNeil: Pale yellow self, large circular blotches. Attraction (1898): Chocolate blotches, edge chrome and shaded crimson; top petals chrome, heavily veined with rosy purple. Cleopatra: Large velvety dark blotch, edged white. D. B. Crane (1900): Grand dark blotches on yellow ground. Emila Court (1898): Violet purple blotches, edged deep rose and white. Fred Male: Dark chocolate blotches, edged yellow, upper petals yellow and rose, a most constant flower. Joe Beringer (1899): Deep violet blotches, with an outer edge of rosy lilac on white ground, upper petals banded rich violet. John Taylor: Blue blotches, broad white margin, top petals pure white. Lord Roberts (1901): Large dense prune blotches, margins deep carmine, &c. Mrs. Nadin (1900): Dense mulberry blotches belted pure white, top petals purple; one of the best in existence for exhibition. Mrs. Robert Stuart: Bright yellow self with dense dark blotches. Mary Sydenham (1900): Rich ruby purple blotches, edged white; top petals same colour as the blotches, with narrow white edge.

Literature.

"Thompson's Gardeners' Assistant." *

This fifth volume of the series is devoted to details of the culture of fruits. All the dwarf and bush fruits are exhaustively treated, and special chapters are provided for The Orchard House, The Vine, Pineapple, Cherry, Apricot, Melon, Cucumber, and Tomato.

The article on the Vine is embrative, and must satisfy all users of this standard work. The varieties are discussed separately and at some length, their merits or failings being noticed and commented upon. The common synonyms are tabulated, and numerous illustrations are furnished. So, too, the Cherry is the subject of a very complete essay which treats of the origin, classification, culture, varieties, and diseases of this increasingly popular fruit. A coloured plate of three varieties of Cherry is provided, but it would have been infinitely better had the publishers not reduced the size of the fruits. We notice half a column of text devoted to the forcing of Raspberries, and wondered who would attempt the forcing of this fruit! The list of Strawberries is a record one, and valuable.

Apropos of the Vine article, there is a very effective illustration of the Marquis of Bute's outdoor vineyard on the Castell Coch estate, in South Wales. Lists of hardy Vines are provided, and instruction also in outdoor culture. The chapter on miscellaneous hardy fruits adds considerably to the completeness and standing of the publication; and under this section details are given on Almonds, Chestnuts, Hazel-nuts, Walnuts, Quince, Medlar, Date Plum, Mulberry, Bramble, Loganberry, Wineberry, Cranberry, Blaeberry, Berberry, and Elder. A dozen of the best varieties of the Date Plum (*Diospyros Kaki*) are being tried at Kew, and it is possible that this luscious Japanese fruit may become popular for glass culture in this country. It flowers and fruits readily. The Banana and Orange and Lemon, whose culture respectively is most successful in suitable structures at home here, are not omitted from the "Gardener's Assistant," and for all who love a better quality of fruit than can be bought in the shops the home-grown products will still be required.

The information on fruit preserving (i.e., in bottles, &c.) is complete and up-to-date, like the chapter on packing fruits for road or rail and on "Storing." A chapter on "Cold Storage" completes a thoroughly useful volume. There are four coloured plates and numerous half-tone illustrations and engravings throughout the pages. Undoubtedly the series is the standard publication detailing the practice of gardening, and as such it is to be commended to all, the country gentlemen, the well-to-do amateurs, and emphatically the professional gardeners.

* "Thompson's Gardeners' Assistant." New edition, edited by W. Watson. Divisional vol. 5, price 8s. The Gresham Publishing Co., 24, Southampton Street, Strand.



A Plea for the Pansies.

Mr. Douglas A. Gilchrist, B.Sc.

The Council of the Durham College of Science, Newcastle, have appointed Professor Douglas A. Gilchrist, B.Sc., of the University College, Reading, to the post of Professor of Agriculture in the Durham College, which has been rendered vacant through the appointment of Professor Middleton to the Chair of Agriculture in Cambridge University. There were thirteen candidates for the post, and from them the Council drew a short list of four, all of whom were Scotsmen.

Factorial Appointment.

Mr. J. J. Simpson, who for the past five years has acted as assistant to Mr. John Robertson, the respected factor on the Mackenzie-Wharnclyffe Estates, Newtyle, has just been appointed agent to Captain Langdale, Houghton Hall, Yorkshire. Mr. Simpson, who is the son of Mr. James Simpson, author of "The New Forestry," and many other standard works, is well fitted for every department of estate work. He studied forestry under his father at Wortley Hall, Yorks, and then took the full course in agricultural science at Aspatria Agricultural College, after which he served for two years in Dr. Barty's office at Dunblane, his next position being at Newtyle, where he acquired a thorough practical knowledge of the management of large arable farms and hill grazings.

Injured Trees at Kew.

In the House of Commons on Tuesday, April 15, Mr. McLaren asked the First Commissioner of Works if his attention had been called to the number of crippled, stunted, and half-dead coniferous trees in Kew Gardens, and whether he would suggest the desirability of replacing them by young stock; and further, if his attention had been called to the pollution of the air near Kew by the smoke-producing factories at Brentford, and the injury done to evergreen trees and shrubs by the smoke-laden air. Mr. Akers-Douglas said: "The cultivation of coniferous trees is not attended with success in the northern part of the gardens, owing to the smoke of Brentford, but it is already carried on in the southern part on the lines suggested. The matter referred to in the second part of the question is receiving most careful consideration."

Destruction of Prickly Pear.

Some little time ago the Queensland Government carried out some experiments in order to determine the efficacy of certain methods of destroying the Prickly Pear (*Opuntia*). For the scene of their operations they selected Bunkers Hill, comprising 145 acres, was covered with a dense and very high growth of Prickly Pear. Five men were engaged, and the work carried out thus:—The men, armed with special matlocks, and protected with leather legging to the thigh, attacked the Cactus, chopping it to the ground. The thickest leaves and the stem were then slashed with the matlock, and the stump was chopped to shreds, but not extracted. Then the leaves and stump were sprayed well with a solution of sodium arsenic, care being taken that the whole of the surface of the leaves were wetted, the spraying being carried out with knapsack spray pumps. This was the whole of the operation, and the result was surprising. After three or four days the green, succulent, fleshy leaves wilted and turned brown, finally drying up and cracking under foot like dry Pea or Bean pods. Not only are the leaves destroyed, but the spray has so permeated the stump to the very end of its long roots that they are utterly rotted and turned into a rich humus. Singularly enough, the spraying has no bad effects upon the grass, which, on the contrary, seems to derive additional vigour from the application. The whole area treated is now a valuable grazing property, covered with most luxuriant grass, intermixed with masses of beautiful wild flowers. The preparation of the sodium arsenic is made as follows:—4lb of white arsenic, 3lb washing soda, in one gallon of water, boiled and stirred for half an hour; 5oz to 8oz of the solution were used per gallon of water in spraying.—("Journal of the Department of Agriculture of Western Australia.")

Variorum.

Ripe Tomatoes cut in half and rubbed on will remove ink, fruit, and vegetable stains from the fingers, as will a cut Lemon. * * Greek and Roman wines were perfumed generally by steeping the leaves of Roses or Violets in the liquor until it had acquired the odour of the flowers. * * After an elaborate investigation, covering ten years of time, Professor Wilson has calculated the sun's temperature to be 6,200deg Cent. (11,192deg F.).

The Need for Tree Planting.

The British nation pays about £26,000,000 annually for imported timber, whereas parish or district councils, by planting waste lands and the roadsides under their control could do good public service, and reduce their local taxation. Several communities in South Germany and Austria, by judicious management of their woodlands, pay all the expenses of the municipality, and for every tree felled in the Bavarian forests another must be planted. Why do our councils not look ahead in the matter? Why? Why?

A "Gardener's" Qualifications.

A correspondent sends us the following cutting:—What are the qualifications of a gardener? I have known members of the profession who would consider it derogatory to be called upon to do anything outside the practice of horticulture. Such is evidently not the view, however, of the liberally endowed gentleman who advertises his qualifications in a gardening contemporary in the following terms:—"Gardener (Head Working), where not less than one is kept. Used to cows and Orchids, like place where boots, knives, windows, dogs, and pigs; also few sheep, run errands, sang in choir, Church, or Chapel; can use the gloves, ride, and drive, do rough carpentering, painting, and glazing; good cricketer."

Planting the Sand Dunes.

The benefits derivable from planting sandy tracts of land with Pine trees have been emphasised in parts of France, and from a letter to an American contemporary it would appear that good results have also followed the planting of sand-dunes in the United States. The writer in the paper referred to says:—"You remember the attempt made of planting Pines in some of the dunes, when on your last visit to these then barren plains? Well, you ought to see them now! These barren, drifting dunes are now one beautiful forest, its benefits and beauty only to be appreciated by those who have made these barren lands their home and seen them before and after the arrival of the forest." The dunes in the vicinity from which he writes cover a stretch of land four miles wide, and some of them are over 200ft high. The forest he refers to covers those most inland or so-called "dead" dunes, but work in all stages is continuously progressing towards the seashore. In 1884 all the dunes had been planted with grass (*Ammophila-arundinacea*).

Kiosks for Street Flower Sellers.

The recent action of the Chicago municipal authorities, backed by some of the city's retail florists, in suppressing the street flower sellers, is calling forth considerable discussion. One writer makes the substantial suggestion that the city take a leaf out of the book of Paris, and secure a design of artistic value for a kiosk in which the legitimate street trades could be carried on with proper protection from the weather and without obstruction of the highways. The latter suggestion, says "Harper's Weekly," is not at all a bad one for Chicago or for the New York Municipal Art Commission to consider. The kiosk system has worked well in Paris, and there appears to be no valid reason why it should not be adopted in this country. The push-cart men and the corner stands for newspapers, the street florist and the fruit vendor, have all of them become so much a part of our life that they may be said to be institutional. They represent an industry in which sincere and honest labour is involved, and any effort looking toward their control should be rather in the lines of eliminating their potentialities for nuisance while conserving their right to make a living commensurate to their ends and usefulness to the public, than in the direction of suppression. To abolish their privileges wholly would work injustice to thousands whose only means of livelihood they are. But to insist upon their being so housed and fixed as to neither offend the eye nor interfere with other busy wayfarers is commendable. The subject is worthy of the joint consideration of the municipal authorities, legislative and art.

Handsworth and District Show.

The eighteenth annual exhibition of this society will be held in the Victoria Park, Handsworth, on Friday and Saturday, July 25 and 26. Upwards of £500 are offered in prizes.

Important Notice.

In consequence of the Coal Exchange, Manchester, being engaged on Friday, May 2, the Exhibition of the National Auricula Society (Northern Section) will be held there on Saturday, May 3.—J. W. BENTLEY, Hon. Secretary, Stakehill, Castleton, Manchester.

Weather in the North.

On the morning of the 18th there were 3deg of frost, the only recurrence during the past week. The weather has been changeable, cold easterly winds prevailing throughout the earlier part, giving way to milder and showery weather on Sunday and Monday, the latter being extremely characteristic of the month.—B. D., S. Perthshire.

More Fruit Steamers.

Messrs. Forward Brothers, of St. Mary Axe, whose steamers trade to Morocco, the Canary Islands, and Madeira, have made arrangements with a firm of London fruit brokers to run a regular fortnightly line of steamers from the Canary Islands to Manchester carrying fruit. The first steamer is reported to have left the Canary Islands on Tuesday, April 15, with a cargo of 11,000 packages of Bananas and Tomatoes, and arrived at Manchester on 22nd inst. All arrangements are made to deal with any "boycott," and it was hoped that the Manchester Ship Canal would help in every way to establish a continuous service.

German School Gardens.

An excellent instance of the advantage of the German system is given in "School Gardens in Germany"—an article published in volume 9 of the Board of Education's "Special Reports." Ten years ago the fruit growing industry in Rhineland was decaying. The peasants in many districts were ignorant of how to choose, plant, or tend their trees, and the district school inspector at Siegburg took the matter in hand. He interested the masters in the village schools in the theory and practice of horticulture, and after these ten years' endeavours he has succeeded in establishing a garden in connection with each of his hundred schools. The result has been that in many of the villages fruit growing has become practically a new industry; in others the industry has received an impetus; and everywhere the work has resulted in pecuniary advantage to the peasants.

Bulbous Plants at Kew.

In the Cape house at Kew, the central portion of which is devoted to Heaths, there is at present a yellow flowered form (aurea) of *Freesia refracta*. The colour is very distinct and charming. An old but little known species of *Ornithogalum* named *aureum* claims a deal of attention, for the fleshy segments of the medium sized, erect flowers are coloured a rich, glowing orange. The inflorescence reaches a height of about 1½ft, and bears four or five of these flowers from the central axis. It is not mentioned in Nicholson's first edition of his Dictionary. *Veltheimia viridiflora* is an old favourite with not a few claims to our regard, and it has the merit of being handsome even though not in bloom, for the succulent green foliage is glossy and beautiful. *Cyrtanthus Flambeau*, bearing clusters of rosy-pink, tubular flowers, which curve slightly, deserves attention, as do others of the genus, and *Anoiganthus breviflorus*, with deep, canary yellow flowers also in terminal cymes and tubular, the foliage being long, dark green, and linear, forms a splendid subject to contrast against the fore-named *Anoiganthus*. *Antholyza Cunonia* is a scarlet and black flowered species of merit, and is the only member of the genus now in flower. The *Antholyzas* may not be so showy as the *Sparaxis* (some of which are now at their best) or the *Ixias*, or *Freesias*, yet they have a character of their own, and a number of them are very elegant when in bloom. They can be successfully cultivated in the open air. *Phædranassa chloraca*, with its most lovely drooping flowers, is in flower in the warm Begonia house. The blooms are clustered at the apex of a tall, erect, and slender stalk, being tubular in shape and 3in in length. The tips are green, while the rest of the tube is crimson, with a glaucous sheen. *Acidanthera candida* is very pretty, with its snow-white flowers, which may be likened to those of "The Bride" *Gladiolus*. The *Brodiaeas*, *Ixias*, and *Sparaxis* are also gaily beautiful at the present time.

Daffodils from Rood Ashton.

On Saturday morning last we received from Mr. W. Strugnell, gardener to Colonel Vivian, Rood Ashton, Trowbridge, a delightful selection of double Daffodils. These were as fine as the best we have seen, the form being the handsomest of the double *Telemonius*, and not generally met with.

Trees in the Strand.

According to previous notices in the Press, shade trees have now been planted at the edge of the pavements by the Law Courts, where the widened thoroughfare around St. Clement's Danes Church has allowed of the planting being done. The trees are 10ft high, clean, healthy, and shapely. They seem to have been well planted and are carefully staked. The London Plane is the species mostly chosen.

Notes from Kendal.

On every hand there are indications of an immense crop of blossom. Fruit trees of all kinds, even to the tips of last year's wood, are studded with flower buds, and the Hawthorn hedges and trees will be one mass of white, showing the great influence of last autumn's sun. Given favourable weather, free from frost and cold rains, during the next month, there will be an immense crop of fruit throughout the country.—A. D.

Victorian Apples.

Covent Garden salesmen were briskly engaged on Wednesday afternoon, the 16th inst., selling off with great dispatch to a willing crowd of dealers, the first consignments of Apples in barrels from Victoria, that land of promise far away in the other hemisphere of earth. And, like the Tasmanian fruits, big prices were received. The barrels contain 36lb of Apples each, and some of these cases, containing sound and greener samples of fruit, brought 19s. each, which is just over 6d. per lb wholesale cost—truly a long price. It is notable, however, that similar samples in the same sized cases or barrels have on other occasions only brought 7s. 6d. each, and the average price obtained appears to be about 14s. per case of 36lb, equal to a fraction over 4½d. per lb, wholesale. Two good Apples weigh half a pound, and five moderate ones weigh a whole pound, and fetch 1d. each retail.

Echoes from Hamilton.

The first half of the month was scarcely in line with the poetical Apriils one conjures up from the oblivion of the worthy past. The showers were unpleasantly cold, and would make excellent duty for the opening days of March. No balmy zephyrs fawned the dewy buds, but a vigorous, icy Boreas, highly suggestive of the snow-laden cloud and ice-capped hill, pervaded the atmosphere instead. The nights were frosty; some of them phenomenally so for the month. Yet the improvement which has taken place in the last few days has done great things in pushing forward vegetation. Many kinds of trees have a start of nine days on last year, and if the conditions will continue uninterrupted the greater part of forest trees will be in full leaf by the 1st of next month. Farmers, as well as gardeners, are well forward with their work, and the outlook in both spheres is on the whole gratifying and promising. This month was of some consequence among the Ancient Romans. Not less than six great festivals were celebrated to conciliate certain of the voluminous deities held sacred by that nation. The 4th and 5th of the month were the "Megalesia," held in honour to the mother of the gods. The 9th "Cerialia," in honour of Ceres. The 15th "Fordicidia," a sacrificial festival of certain cows. The 21st, and perhaps the greatest of any, was "Palilia," in honour to the goddess of shepherds; originally this festival was a celebration of the anniversary of the foundation of Rome, on which day, 753 B.C., it is said this undertaking was begun. The 25th "Robigalia," in deference to the goddess Robigo, who was supposed to preserve the corn from the ravages of mildew. (Many a gardener would willingly pay a day at the shrine of fair Robigo did he know where to find her.) The 28th to the end of the month was "Floralia," in honour to Flora, and from what is known of this festival it was far from being so innocently harmless as our floral fêtes and battles of flowers of to-day. The bumble bee goes about now every day, and appears as if anticipating a busy season. The rooks are engaged for some time feeding their young, and baby weasels are going about half grown.—D. C.

Obituary.

Mr. Mungo Temple.

It is with much regret that we have to announce the death of Mr. Temple, of Carron House Gardens, Falkirk, on April 16, after a long and very painful illness. Mr. Temple was well known and much respected in the gardening world as a most energetic and first-rate cultivator in all departments of horticulture, particularly as a cultivator of all sorts of fruits, a thorough knowledge of which he gained in some of the best gardens in England and Scotland, as well as in market establishments. He first made his mark at Bilbirnie, in Fifeshire, where he grew fruits of all sorts, and exhibited for many years in Edinburgh with marked success as a prize-taker. From Bilbirnie he removed to Blenheim, which large establishment he managed with equal success for some years. Over twenty years since he was engaged by Sir T. D. Brodie, Bart., to make new gardens at Carron House, and alike in the glass department and outdoor, his management was very conspicuous for the large turn-out of all sorts of garden produce was remarkable for the extent of it from a given space of ground. It may also be noticed that under Mr. Marnock's directions he laid out the grounds and made the gardens at Impney Hall, in Worcestershire. He was a most indefatigable and conscientious servant, and a man of very high moral principle, and will be much missed in the district, where he was most highly respected by all who knew him. He leaves a widow and grown-up family.

M. Eugène Verdier.

We learn through "Le Jardin" of the death recently of this famous Rose grower, who has left a durable trace of his work among these beautiful flowers. M. Eugène Verdier was seventy-five years of age. He had been a member of the National Horticultural Society of France since 1850.

Mr. W. Salcombe.

We regret to have to announce the death, upon March 25, of Mr. W. Salcombe, head gardener, Ticehurst House, Ticehurst, Sussex, at the ripe old age of 82. He took an active lead for fifty years, and will be greatly missed at the local shows, to which he rendered great assistance. He was a F.R.H.S., and a great supporter of the G.R.B.I., by his skill and good qualities winning the respect of all who knew him. He is succeeded by his grandson.

Societies.

Royal Horticultural, April 22nd.

The Drill Hall on Tuesday last was packed to overflowing, both with exhibits and with people who came to see and admire. Hardy flowers of all sorts were plentiful, as were Roses, Orchids, Ferns, and Hippeastrums. The Primula Society also held its show in conjunction, and we are pleased to be able to record this year's exhibition as the finest for a long while past.

Orchid Committee.

Present: Harry J. Veitch, Esq. (in the chair); with Messrs. James O'Brien, H. M. Pollett, H. Ballantine, Norman C. Cookson, E. Ashworth, F. W. Ashton, John Cypher, W. N. Bilney, H. T. Pitt, F. J. Thorne, W. H. Young, J. W. O'Dell, E. Hill, W. Boxall, G. F. Moore, H. A. Tracy, J. Wilson-Potter, H. Little, J. G. Fowley, and J. Douglas.

Messrs. J. Cypher and Sons, Cheltenham, sent a rich selection, including *Lælia purpurata* (Russelliana), *Phaius Cooksoni*, *Cattleya Mendeli*, *Lælia latona*, *Cypripedium Vipani*, with neat white lip and purplish-veined sepals and petals. They had also *C. bellatulum*, *C. grande atratum*, *Dendrobium nobile virginalis*, *Vanda teres*, and a fine pan of the bog-loving *Pinguicula caudata*.

Messrs. H. Low and Co., Bush Hill Park, Enfield, were strong in Orchids, including *Bifrenaria Harrisoni*, a fleshy flowered species, with white sepals and petals and rich purplish lip; *Cypripedium callosum*, *C. ciliare*, *C. Goweri magnificum*, and a number of good *Cattleyas*, *Dendrobies*, and *Odontoglossums*. Jeremiah Colman, Esq., also staged a small collection.

Messrs. Sander and Son, St. Albans, staged eight plants of *Dendrobium densiflorum*, bearing on the average four thyrses each. The beautiful and handsome *Maxillaria Sanderiana*, mottled and blotched with dark purple, was present; so, too, the somewhat rare *Eulophiella Elizabethæ* and the superb *Cattleya Skinneri alba*, just like a good *Dendrobe* in flower. *Lycaste Skinneri* var. *Richard Hinde*, rosy purple, is very beautiful.

Messrs. James Veitch and Sons, Limited, Chelsea, had a special group of *Lælia* x *Latona* (*L. purpurata* x *L. cinnabarina*),

Cattleya Schröderæ, and another group, or grouplet, of *L. c. Highburiensis*. The pale tea-coloured *Dendrobium* x *Cheltenhamensis* was on view; also *Chysis Langleyensis* (very fine), and the charming and variedly coloured *Cattleya Niobe*. One of the special objects of interest in the group was a bigener, a very minute subject and not pretty, the result of crossing *Leptotes bicolor* (female) with *Lælia cinnabarina*. The new-comer is named *Lepto-Lælia Veitchi*.

A rich and profusely flowered collection of *Dendrobiums* came from W. A. Bilney, Esq. (gardener, Mr. C. Whitlock), Fir Grange, Weybridge. This included *D. Wardianum*, *D. densiflorum*, *D. infundibulum*, *D. nobile nobilius*, *D. splendidissimum*, *D. Brymerianum*, *D. nobile Ballianum*, and various others.

W. J. Cooper, Esq. (gardener, Mr. W. Reynolds), Hayward's Heath, again staged a well-flowered set of *Dendrobium atroviolaceum*. The plants made a good show.

H. T. Pitt, Esq. (gardener, Mr. Thurgood), Stamford Hill, S.E., had a varied assortment of the Orchids now in season, including, amongst others, *Cattleya Schröderæ*, *Vanda tricolor* with fine spikes, *Zygopetalum Mackayi*, *Cattleya Lawrenceana*, *Odontoglossum triumphans*, *Cymbidium eburneum*, and *Cypripedium bellatulum*.

Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq. (in the chair); with Messrs. A. H. Pearson, Geo. Wythes, James H. Veitch, G. Norman, F. Q. Lane, James Smart, P. C. M. Veitch, J. Jaques, W. Fife, C. G. A. Nix, H. Markham, Ed. Beckett, Alex. Dean, S. Mortimer, J. W. Bates, Geo. Thos. Miles, Jos. Cheal, G. Reynolds, and J. Willard.

Messrs. J. Russell, of Richmond Nursery, Richmond, staged a capital exhibit of his "Solid Ivory Seakale," a fine, stout variety.

Floral Committee.

Present: W. Marshall, Esq. (in the chair); with Messrs. Chas. T. Druery, Geo. Nicholson, C. W. Knowles, J. F. McLeod, E. Molyneux, Jas. Douglas, John Jennings, Wm. Howe, Chas. Jefferies, J. A. Nix, C. Dixon, W. Bain, R. C. Notcutt, R. W. Wallace, F. Page Roberts, J. W. Barr, Geo. Gordon, C. J. Salter, H. J. Cutbush, H. J. Jones, Wm. Cuthbertson, J. H. Fitt, W. P. Thomson, E. H. Jenkins, Wm. J. James, Chas. E. Shea, C. Blick, Harry Turner, E. T. Cook, J. Fraser, Ed. Mawley.

Messrs. Wm. Cutbush and Son, Highgate, N., were represented by a small group comprising Tree *Pæonies* in 6in and 7in pots and perpetual flowering *Carnation* *Winter Beauty*, in good form, with *Palms* at the back and *Malmaison Carnation Blush* in a winding line at base, having many fine flowers.

Messrs. W. Paul and Son, Waltham Cross, Herts, staged a very pleasing group of flowering shrubs in great variety. Amongst those conspicuous for great merit were *Azalea Perfecta*, *Deutzia hybrida Lemoinei*, A. Anthony Koster, very deep yellowed, and many varieties of *Lilacs* and *Thorns* at the back. *Pyrus angustifolia flore pleno* was very pretty, and *Hybrid Tea Rose Marie Louise Poiret*, and *Tea Papa Lambert* were splendid examples of good flowers.

Messrs. Jas. Veitch and Sons, Limited, Chelsea, staged a very pleasing collection of stellate-flowered *Cinerarias* in variety, amongst which *C. Feltham Beauty* was prominent, with many other soft shades of blue, pink, maroon, and white. Arranged with *Palms* and *Adiantum cuneatum* the effect was light and pretty. The same firm had also close by a small staging of *Hippeastrums*, comprising many fine forms of the grand flower. Amongst those of more than ordinary merit were H. Mrs. Bilney, *Queen Alexandra*, *Rhodesia* (cochineal on green ground), and *Willander*. *Kalanchoe Kirki* was shown again to correct an error in showing last meeting, when it was shown as *K. coccinea*, which has since been corrected by the Kew authorities. Messrs. Veitch and Sons, Limited, also staged, in 8in pots, a very fine lot of *Cerasus pseudo-Cerasus* James H. Veitch looking very pretty with the delicate blossoms of good size.

Sir Trevor Lawrence, Bart., Burford, sent a charming selection of *Anthuriums* of many colours and shades. The collection included several seedlings of merit, and amongst the named varieties of especial worth were *A. Scherzerianum Wardi*, *A. S. triumphans*, *A. S. maximum*, and *elegans*, also *A. Andreanum sanguineum*, and *Lawrence* were in splendid form.

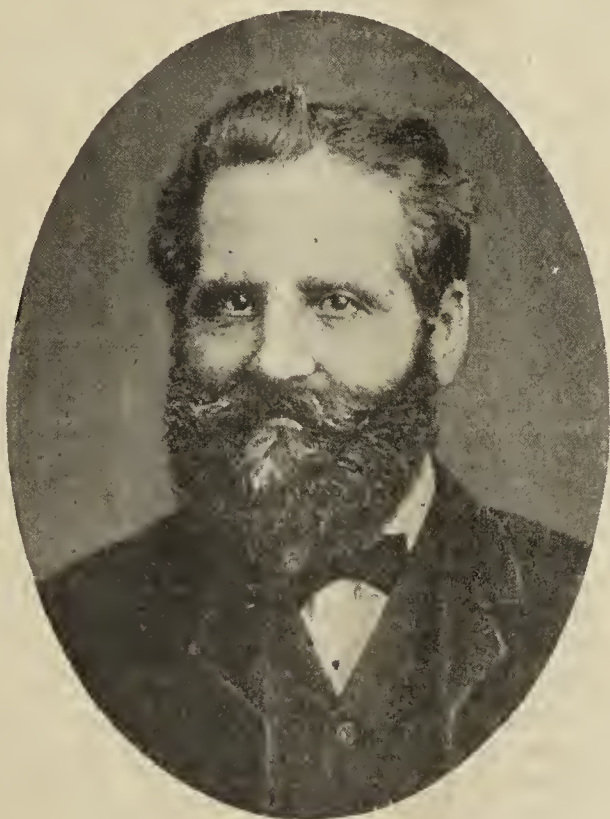
F. D. Godman, Esq., F.R.S., South Godstone, sent some exceedingly fine *Camellias* *Mathotiana* of splendid substance and colour deep crimson, and were over 5in in diameter. *Rhododendron's Aucklandi hybrida* and *R. Luscombe's Hybrid* were grand, as were also *R. Thomsoni* and *Campylocarpum*, the latter very delicate.

Messrs. Frank Cant and Co., Braiswick Nursery, Colchester, staged a very magnificent selection of cut *Roses* in great varieties. Amongst those of more than ordinary merit were *Cleopatra*, *Maman Cochet*, *The Bride*, *Muriel*, *Medea*, and some pretty clusters of *W. A. Richardson*. The new *Rose*, *Lady Roberts*, coppery cream, of splendid substance and form, bids fair to become a great favourite. The whole stand was one to rejoice the hearts of the great many rosarians who saw it.

Messrs. T. S. Ware and Co., Ltd., Feltham, had a large and varied collection of hardy plants, amongst which *Primula Sieboldi*, *lilacina fimbriata*, *P. S. rosea striata*, *P. Auricula hybrida*, *Trillium sessile*, *Ramondia* in variety, *Polemonium confertum* var. *McIlillium*, with *Adonis vernalis*, were worth special notice. The whole stand was one which attracted a great deal of attention.

Messrs. J. Carter and Co., High Holborn, were well represented by a charmingly handsome and very varied collection of *Cinerarias*. The individual flowers were nearly all 3in across, and the colours were very diverse. The clean and strong condition of these plants was instructive of what can be done with these plants, which are sometimes considered defaulters in this direction.

Messrs. R. and G. Cuthbert, Southgate Nurseries, Middlesex, had on the left of the entrance a large and varied collection of flowering shrubs, in which *Azaleas* predominated. Amongst these *Azalea Ghent* fl. pl., *A. mollis* Baron Pycke, *A. mollis*, and *sinensis* Anthony Koster were very charming. Other objects in the group were *Wistarias* and *Lilacs* in variety. The whole group was a dream of delicate colours, and attracted unbounded admiration.



The late Mr. Mungo Temple.

Messrs. H. Cannell and Sons, Swanley, who are always noted for Zonal *Pelargoniums*, were again represented by a choice collection of blooms of this flower. Amongst those of more than passing interest were *Chaucer*, a beautiful cerise, *President McKinley*, *Lilacina Improved*, and *Lord Hopetoun*, which together with other very fine flowers, formed a grand exhibit.

Messrs. Paul and Son, Cheshunt, were represented by a very fine collection of pot *Roses* in variety, both standard and bush being largely shown. *H.T.'s Marquise Litta*, *Belle Siebriecht*, *Teas*, *Madame de Watteville*, *Mdme. Falcot*, and *Bridesmaid* were splendid as standards, and *Tea Queen of Sweden* and *Norway*, with a few *Polyantha* and *H.P.'s* in variety as bushes were worthy objects for notice. The new seedling *Tea Rambler* of strong habit and pretty pink flowers promises to be a useful addition to this class.

Mr. Geo. Mount, Canterbury, staged a charming collection of cut blooms of *Tea Roses*. *Catherine Mermet*, *Niphotos*, *Mrs. John Laing*, *Caroline Testout* were in splendid form. A collection of the greatest merit, comprising a great variety of well grown flowers.

Mr. Amos Perry, Winchmore Hill, staged a group of hardy plants in great variety, *Saxifraga Wallacei*, *Geum Heldreichi* luteum, *Primulas denticulata* and *rosea*, &c., *Iris*es in great variety, *Ranunculus amplexicaulis*, with *Anemones* in choice variety and *Tropæolum tricolor*, were examples of much merit in a collection of immense interest to all hardy plant lovers.

Messrs. W. Balchin and Sons, Hassocks Nursery, Hassocks, were represented by a collection of *Tetratheca ericoides* and *Erica propendens* in 48's, with a few *Aphelaxis*.

Messrs. George Jackman and Sons, Woking Nursery, were represented by a choice collection of hardy plants, amongst which *Alpine Auriculas* *Golden Queen* and *Dr. Gainford* were pretty. *Polyanthus* were in great variety and well grown, as were also the *Primulas*. *Dodecatheon splendidum* is pretty and light. The collection also included shrubs, as *Berberis Darwini* and *Rhododendrons* and *Spiræas*.

The same firm also had a plant of the new hybrid *Clematis*, *King Edward VII.*, a fine flower of pale mauve, with white stamens. The plant exhibited was well grown and compact, and the flowers nearly 8in across.

Messrs. W. Cutbush and Son, Highgate, N., staged an exceedingly choice collection of *Ericas* in variety, *Erica erecta*, white flushed with pink, and *Erica Cavendishi*, a lovely rich yellow, and *E. candidissima*, white, and *Erica ventricosa*, magnificent waxy pink, and *Erica hybrida*, coral pink, were all fine well grown plants of the greatest merit.

Mr. H. B. May, Dysons Lane Nurseries, Upper Edmonton, staged fine baskets of *Polypodium glaucum cristatum* and *Mayi*, *Pteris Childsi* and *Alexandra*, and *Dracæna Mayi* was shown as nice plants in 3½in pots.

Mr. A. Forster, Nunhead Cemetery, sent *Chrysanthemum Golden Shower*, from plants which have been blooming since November last.

Mr. John Russell, from the well-known Richmond Nursery, sent *Dimorphanthus mandschuricus folius argenteus marginatus* and *Olearia Stellata*, very pretty with its mass of white flowers, which must be very useful for cut purposes.

Mr. E. Potten, Camden Nursery, Cranbrook, Kent, exhibits *Persica Clara Meyer* as a fine tree, above 8ft high, and covered with pink blossoms; also *Forsythia Fortunei variegata aurea*, *Berberis Wallichii* and *Cupressus Lawsonianum Canadensis* and *C. L. Potteni* in tubs.

Lady Tate, Park Hill, Streatham Common, sent *Rhododendron Nuttali* as a fine tree over 9ft high, loaded with grand flowers of creamy yellow.

Mr. Arthur W. Wade, Riverside Nurseries, Colechester, staged a collection of well grown *Narcissi*, amongst which *Emperor*, *Orange Phoenix*, *Sulphur Phoenix*, *Stella*, *Barri conspicuus*, *Cynsure*, and *Burbidgei* were very nice flowers. A feature of this exhibit was the use of Bamboo stands, which suit this class of flower to perfection.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, again had a large stand of fine *Narcissi*, *Emperor*, *Shakespeare*, *Madame Plomp*, *Grandis*, *Mrs. T. S. Ware*, *Glory of Leiden*, *Poeticus Ornatus* were all worthy objects for attention. Amongst the new *Narcissi* *Glory of Morrdzeik*, *Van Thromp*, *H. J. Jones*, and *Mrs. H. J. Jones* were all fine flowers. Other sections were also represented by nice examples. The stand was one of great merit and attracted much attention.

Messrs. H. Low and Co., Bush Hill Park, Enfield, had a very nice collection of well grown *Schizanthus wisetonensis* in 6in and 7in pots. The shades of colour were pleasing and various, and the exhibit was light and pretty.

Narcissus Committee.

Present: Henry B. May, Esq. (in the chair); with Miss E. Willmott, Messrs. C. MacMichael, S. Eugene Bournon, J. W. Bennett-Poë, Robert Sydenham, F. W. Burbidge, E. Reuthe, J. W. Pope, W. Poupert, P. R. Barr, W. H. de Graaff, J. D. Pearson, W. F. M. Copeland, Walter T. Ware, James Walker, and A. Kingsmill.

Messrs. J. Veitch and Sons, Limited, Chelsea, staged a large and pleasing collection of *Narcissi* in great variety. *N. Bicolor Horsfieldi* and *N. B. Empress* and *N. Glory of Leiden* and *Mdme. Plomp* were very fine, as were also *Incomparabilis Sulphur Phoenix* and *Leedsi Duchess of Westminster*. Other sections were represented by many fine flowers. This stand attracted great attention.

Mr. R. A. Danvers, Charlton, Shepperton, staged a small collection of *Narcissi*. *N. Emperor*, *N. Glory of Leeds*, and *N. poeticus Almira* were done well.

Messrs. Hogg and Robertson, 22, Mary Street, Dublin, staged a large number of vases of *Narcissi*, chief amongst which were *N. bicolor Emperor* and *Glory of Leiden*, *John Davidson*, *Lady Margaret Boseawen*, *N. Leedsi*, *Mrs. Langtry*, *N. Incomp.* *Frank Mills*, *Sir Watkin*, and *Captain Nelson*. An interesting collection of Irish grown bulbs. The same firm also staged a very fine collection of Irish grown *Tulips*. *T. Belle Alliance*, *Admiral Peyncerse*, *Mars*, *Heetor*, and *Canary Bird* were examples of good blooms.

Messrs. Barr and Sons, Covent Garden, W., staged a very large and choice collection of *Narcissi*, representing all sections. The few hardy flowers, as *Muscari* and *Anemones* in variety at the base of the exhibit, formed a pleasing finish to a grand collection. *N. Monarch* and *N. bicolor Weardale Perfection* were very fine. Amongst the newer varieties *Lucifer*, *Peter Barr*, *N. bicolor Hatfield Beauty* and *Queen Christina* were choice additions. Amongst the collection of *Darwin Tulips* close by, staged by the same firm, *T. Louis Immanuel*, *Joseph Chamberlain*, *Early Dawn*, *Flambeau*, and *Queen of Brilliants* were very fine examples of the section.

W. B. Cranfield, Esq., Branby House, Clay Hall, Enfield, sent a small collection of well grown *Narcissi*. *N. Monarch* and *Horsfieldi* were nice flowers, while other sections were well represented.

Messrs. B. S. Williams and Son, Upper Holloway, N., had a choice collection of *Narcissi* in vases. *N. Barri Orpheus*, *Glory*.

of Leiden, Norma, Victoria, N. Orange Phoenix, Sir Watkin, and bicolor Victoria were all fine flowers, and the exhibit altogether was one of much merit.

Messrs. R. H. Bath, Limited, Floral Farms, Wisbech, staged a large collection of fine flowers of Narcissi in great variety. Mdme. Plomp, Hodsock Pride, M. J. Berkeley, Emperor, Incomp. Lorenzo, Prince Teck were very fine, as were also Weardale Perfection, Duke of Bedford, and Glory of Leiden. The Anemones and Muscari at base were bright additions to an interesting group.

Mr. S. Mortimer, Farnham, staged a grand lot of Polyanthus in 5in and 6in pots, nearly 100 plants, well grown and a great variety of colour.

The Hon. Mrs. Berkeley, Great Warley, Essex, staged a grand lot of Narcissi, which obtained the Silver Cup, N. maximus, Lady Mary Boscawen, White Queen, Charles Wolley Dod, Horsfieldi, and Weardale Perfection were examples of splendid flowers, and the other sections were well represented.

Medals: Floral Committee.

Gold, for group of Anthuriums, to Sir T. Lawrence, Dorking; Silver-gilt Flora, for groups of flowering trees and shrubs, to Messrs. Cutbush and Sons, Southgate; Silver-gilt Banksian, for collection cut Roses, to Mr. G. Mount, Canterbury; Silver-gilt Banksian, for collection cut Roses, to Messrs. F. Cant and Co., Colchester; Silver Banksian, for flowering plants, to Messrs. Cutbush and Son, Highgate, N.; Silver Banksian, for hardy flowers, to Messrs. Wallace and Co., Colchester; Silver Banksian and Cultural Commendation, for flowering trees and shrubs, to Messrs. W. Balehin, Hassocks, Sussex; Silver Banksian, for cut Zonal Pelargoniums, to Messrs. Cannell and Sons, Swanley; Silver Flora, for Cinerarias, to Messrs. Carter and Co., High Holborn; Silver Flora, for Polyanthus, to Messrs. S. Mortimer and Co., Farnham; Silver Flora, for herbaceous and hardy plants, to Perry's Hardy Plant Farm, Winchmore Hill, N.; Bronze Banksian, for hardy flowers, to Messrs. T. S. Ware and Co., Limited, Feltham; Bronze Banksian, for hardy flowers, to Messrs. G. Jackman and Sons, Woking; Bronze Banksian, for Schizanthus, to Messrs. H. Low and Co., Enfield; Bronze Flora, for standard Roses, to Messrs. Paul and Sons, Cheshunt.

Certificates and Awards of Merit.

Draecena Mayi (H. B. May).—Leaves 2 inches broad, slightly recurving. Some of them are rosy-red, others are edged with light cerise, or half-and-half streaked with this colour and dark green. Award of Merit.

Cypripedium × *Vipani*. *Hessle variety* (W. P. Burkinshaw, Esq.).—The lip here is almost spotless white and very smooth, with long wavy petals somewhat broad in the middle, and with a moderate-sized dorsal sepal. These parts are veined with purplish-violet. The cross was effected between *C. Phillipense* and *C. niveum*. Award of Merit.

Narcissus bicolor Queen Emma (J. Veitch & Sons, Ltd.).—A much stouter and handsomer flower than Empress, with creamy perianth segments. The corona is even and smooth, though fringed at the apex. Award of Merit.

Cattleya × *Niobe* (J. Veitch & Sons, Ltd.).—The result of a cross between *C. Aclandi* and *C. Mendeli*, and taking largely after the form of the former. The stout, firm lip folds in on the column, while the lip, from its middle, bends down. This part is rich maroon, throat orange, and base ivory. The sepals and petals are ivory white suffused with mauve and somewhat spotted. Award of Merit.

Odontoglossum × *Rolfæ*, *Oakwood variety* (Norman C. Cookson, Esq.).—A superb and very distinct form, much barred and heavily spotted a dark purplish chocolate colour on a smoky ground. The plant bore a four-flowered raceme. Award of Merit. N. Cookson, Esq. (gardener, Mr. H. J. Chapman), Wylam-on-Tyne.

Cypripedium × *Emperor of India* (Sander & Sons).—The largest *Cypripedium* perhaps in cultivation, with enormous dorsal sepal 2½ inches broad and longer; sepals long and brownish, black spotted; the lip also brown and very large. Award of Merit.

Narcissus bicolor Queen Christina (Barr & Sons).—The corona here is short and stout, well-opened and turned round at the apex; it is rich sulphur yellow. The stout perianth segments are pale primrose. Award of Merit.

Narcissus bicolor Elaine (Barr & Sons).—A very graceful trumpet Daffodil with beautifully wavy segments, palest primrose, and very long and comparatively slender corona, of a deep sulphury colour. Award of Merit.

Odontoglossum Adriane Paireanum (H. T. Pitt, Esq.).—Flowers of very moderate size and coloured dark brownish red toward the points of the segments, the rest white. Award of Merit.

Cypripedium Edithæ (Charlesworth & Co.).—A cross between *C. bellatulum* and *C. Chamberlainianum*. The form is more of the former parent, with the slight hairiness of *C. Chamberlainianum*. The colour is rich blackish maroon on the petals; the sepals are greenish edged, and the lip is paler than the petals. Award of Merit.

Odontoglossum crispum Robert McVitie (W. Stevens, Esq.).—A large, but not particularly handsome, flower. All parts are alike, bearing a very heavy reddish-chocolate blotch, and well balanced in size. The form is good. First Class Certificate.

Pteris Wimsetti multiceps (J. Hill & Son).—The fronds are crested and incised to a very great extent, and give the Fern a bushy, mossy appearance. Award of Merit.

Hippeastrum Mrs. Bilney (J. Veitch & Sons, Ltd.).—A flower of great substance, of good rounded shape, and finely reflexed segments. The colour is mostly rich deep crimson scarlet streaked with white.

Hippeastrum General Buller (J. Veitch & Sons, Ltd.).—Very large, and splendidly formed. The colour is deep shining crimson scarlet. Award of Merit.

Hippeastrum Queen Alexandra (J. Veitch & Sons, Ltd.).—Not unlike Mrs. Bilney, but larger. Award of Merit.

Auricula Alexandra (Messrs. Hopkins).—A very pretty primrose yellow Auricula, with slightly fringed petals, and notched in the centre in each. The trusses are large and borne on long stalks. Award of Merit.

Dimorphanthus mandshuricus foliis argenteus marginatus (J. Russell, Richmond).—The plant is handsome and useful for shrubberies or lawns, with very large compound pinnate leaves. The name otherwise describes it. Award of Merit.

Narcissus Cresset (Miss E. Willmott).—One of the Barri section, with rich reddish corona and pale tea perianth. Award of Merit.

Narcissus Botby Berkeley (Miss E. Willmott).—After the Johnstons type, silvery perianth and corona. Award of Merit.

Narcissus Warley Magna (Miss E. Willmott).—A smaller flower than the new P. R. Barr, but very much like it. Award of Merit.

Narcissus Ineognita (Miss E. Willmott).—One of the incomparabilis forms, with orange funnel and pale segments. Award of Merit.

National Primula and Auricula.

On this occasion the National Auricula and Primula Society held its twenty-fifth annual exhibition in conjunction with the R.H.S. Committees' meeting. We give a report of the classes seriatim, as follows:—

Class 1., twelve Auriculas, dissimilar.—Mr. James Douglas, Great Bookham, led off as usual with a good set, staging the following varieties (which were, by the way, difficult to see): Vesta, Raven, Shirley Hibberd, Mrs. Potts, Chloe, Geo. Rudd, Acme, Mrs. Dodwell, Abraham Barker, Ruby, Richard Headley, and Geo. Lightbody. All of these had from six to ten flowers on the truss. The handsomest of the set was probably Mrs. Potts; this was perfect. Mr. Wm. Smith, from Bishop's Stortford, made a fine second and staged Lady Randolph Churchill, Rachel, Heatherbell, Abraham Barker, Gerald, Abbé Liszt, Elaine, Acme, Mrs. Dodwell, Miss Barnell, Venus, and Geo. Lightbody. The third award went to Mr. Charles Turner, Slough, with a very varied and sweet set. The forms here included Geo. Lightbody, Black Bess, Rev. F. D. Horner, Confidence, Stapleford Hero, Acme, Lord of Lorne, Gen. Buller (Turner), Mrs. Potts, Heatherbell, Everard, and Geo. Rudd; the best was Heatherbell. Mr. P. Purnell, Streatham Hill, came fourth with good specimens of Ruby, Geo. Lightbody, Rachel, and Heatherbell.

Class 2, six Auriculas, dissimilar.—Here again Mr. Douglas led; and staged Geo. Lightbody, Rachel, Abraham Barker, Ruby, Chloe, and Venus. The second place was awarded to Mr. J. Sargent, Cobham, with Acme, Abbé Liszt, Rachel, Geo. Lightbody, and Ruby. Mr. Wm. Smith, Bishop's Stortford, followed as third, with Geo. Rudd, Abbé Liszt, Acme, Cleopatra, Abraham Barker, and Miss Barnett. There were ten entries in this class, but the first two were by far the most superior. The fourth prize fell to Messrs. Phillips and Taylor, Bracknell; fifth to Mr. C. Turner, Slough; and sixth to Mr. Parsons, of Woodley, Reading.

Class 3, four Auriculas, dissimilar.—Mr. J. Sargent, Reading, was first, but was closely followed by Messrs. Phillips and Taylor; and third Mr. J. W. Euston, Great Gearies. The first prize set included Acme, Geo. Lightbody, Miss Barnett, and Abbé Liszt. Second and third were very close, and had good plants of Geo. Rudd, and Abraham Barker, respectively. Seven entered.

Class 4, two Auriculas, dissimilar.—The renowned grower from Castleton, Manchester, to wit, Mr. J. W. Bentley, here led off with magnificent flowers of Beauty (green edged), and the handsome Gerald. Mr. J. Clements, Birmingham, was second with Rachel, and John Spalding, which could hardly be improved on; third, Mr. A. Hampton; fourth, Mr. Parsons, and others.

Class 5 was for a single specimen green-edged Auricula.—Messrs. Phillips and Taylor were first with Shirley Hibberd; second, Mr. J. Sargent, with a large truss of Abbé Liszt; third, Messrs. Phillips and Taylor, with Mrs. Henwood; fourth, Mr. J. T. Bennett-Poë, with the same. Four others showed.

Class 6 asked for a specimen grey-edged variety, and here Mr. Bennett-Poë was first with Geo. Lightbody; Mr. R. Staward, Walton-on-Thames, third, with a larger flowered plant of the same; and Mr. J. Sargent, fourth, with Geo. Rudd. Four others were exhibited.

Class 7, for a white-edged specimen, brought forward a large number of plants, and some very good trusses were on view. Mr. J. Sargent was leader here with Acme, and was followed successively by Mr. J. Parsons, Mr. C. Turner, and Mr. J. W. Bentley, with the same variety. There was little to draw between either of them; all were good.

In class 8, for a specimen self, the order was thus:—Messrs. Sargent, Turner, J. W. Euston, and R. Dean: all with Mrs. Potts. Mr. A. R. Brown was fourth with Gerald, lovely blooms, but a truss that had only three flowers.

Class 9 required fifty Auriculas, with not less than twenty varieties, amongst which the Alpines might be included. Here Mr. J. Douglas was infinitely superior, his blooms being good and the trusses large. We can only make a selection, and these would include Buttercup, Rachel, Heatherbell, Cleopatra, Robt. Headley, Geo. Rudd, Miss Prim, Beauty, Dr. Hardy, and Ruby. Mr. W. Smith, the enthusiast from Bishop's Stortford, followed as second, and had creditable plants of Ruby, Cleopatra, Heroine, Rachel, Heatherbell, Mrs. Dodwell, and Geo. Rudd. Mr. Charles Turner, Slough, who came third, had plants in larger sized pots than the others, and staged a number of good specimens. Mr. P. Purnell was fourth with large lanky blooms.

Class 10, six green-edged Auriculas, not less than three varieties, and not more than two of any one variety. The first prize of a Silver Medal was awarded to Mr. J. Sargent, with handsome plants of James Hanaford, Abbé Liszt, and Rev. F. D. Horner. Mr. W. Beale, Hayes Place, formed a fair second, with General Niel, John Garret, Mrs. Henwood, James Hanaford, Rev. F. D. Horner, and A. Barker. The third went to Mr. C. Turner; fourth to Mr. R. Staward, and fifth, Mr. J. Clements.

Class 11 (for those who have never won a prize), asked for four Show Auriculas, dissimilar.

Class 14, twelve Alpine varieties.—Mr. J. Douglas was first with splendidly flowered plants of Urania, Firefly, Ziska, Duke of York, J. F. Kew, Thetis, Bride, Mrs. Markham, Dean Hole, Rosy Morn, and Ivanhoe. Mr. J. W. Euston, Great Gearies, Ilford, formed a good second, and Mr. C. Turner a very fair third. In all there were six lots.

Class 15, six Alpine varieties.—Of thirteen entrants Mr. J. Douglas, Great Bookham, was foremost with splendid trusses of Markham, Duke of York, Ziska, Thetis, Emperor, and Firefly. Mr. J. W. Bentley was a good second with large trussed plants of Thetis, Mikado, Koko (a seedling, very bright and pretty), Blue Bell (another seedling), and Duke of York. The third award fell to Mr. J. W. Euston, with stout and well-flowered plants, including Lord Roberts, Hebe, Urania, Perfection, and Rosy Morn.

Seven entered in Class 16 for four Alpine Auriculas, the first prize-winner being Mr. Bentley, followed by Mr. J. T. Bennett-Poë, Mr. R. Holding, and Mr. A. R. Brown.

Class 17, for single specimen, gold centre.—The foremost here were Messrs. Phillips and Taylor, with a good sample of Mrs. M. R. Smith; second, Mr. R. Staward, with Dean Hole; third, Mr. A. R. Brown, with the same variety.

Class 18, specimen white or cream centre.—Mr. J. W. Euston led with Hilda, a fine truss; second, Mr. R. Dean, with Lottie; and third, Mr. J. Douglas, with Mrs. H. Turner. The competition here was keen.

Class 19, for those who have never won a prize. Six dissimilar Alpine varieties.—Mr. J. Clements, of Birmingham, was a creditable first with Uranie, John Ashton, Mrs. Henwood, Firefly, &c. This seemed to be the sole entry.

Class 20, for seedling gold and white-centred Alpines.—The premier set (white-centred) came from Mr. J. Douglas, his Hector MacDonald and Sunshine being very fine; and second, no name. The plants were somewhat confused, and thus difficult to identify. Mr. Douglas also led for the gold-centred set, and Messrs. Phillips and Taylor second.

Class 21, Auricula, Alpine premier, selected from the whole exhibition.—(See second column.)

Class 22, twelve Fancy varieties, six at least to be distinct and not more than two of any one sort.—Mr. J. Douglas had a superb half dozen, including Unique, Rolt's Fancy, Alexis, Saxon, Belle, Golden Eagle, Comus, and Lycidas. The second place was taken by Mr. W. Beale, and the third prize was captured by Mr. J. W. Euston.

Class 23 brought forward the true Primulas, and here Mr. J. W. Euston led off for the dozen distinct species, and included in his set the following: *P. floribunda*, *frondosa*, *Forbesi*, *hybrida*, *rosea alba*, *obconica*, *japonica alba*, *Sieboldi amœna*, *obconica purpurea*, and *P. verticillata*. Mr. Purnell, from Streatham, was second.

Class 24, for six distinct species or well-marked varieties.—Mr. Wm. Beale, Hayes Place, was first with a number of good pans, including *P. rosea*.

Class 25 asked for a group of Primulas or Auriculas, and here Mr. Purnell was the fore-winner and Messrs. I. House and Son, Bristol, a very good second.

Mr. P. D. Williams, St. Keverne, Cornwall, was leader for a dozen Polyanthus, he having very handsome and well-flowered plants. The second award fell to Mr. S. Mortimer, of Farnham, with better flowered specimens and richly coloured; and third, Messrs. I. House and Son, with a good set.

For a dozen dissimilar single Primroses, in Class 27, Messrs. I. House and Son beat Mr. R. Staward. In the succeeding class, for six dissimilar double Primroses, Messrs. House and Son were easily first with a splendid set, which included the fine old

Crimson Velvet, or Pompadour, double white and double lilac. The same firm received a second for three gold-laced Polyanthus in the varieties Beatrix, Jim Smyth, and Henry VIII. Theirs was the only entry, and for the specimen gold-edged Messrs. House also were the recipients of first.

The concluding class was devoted to a basket of Primroses and Polyanthus, and here Mr. Wm. Beale beat Messrs. House. But neither arrangement was so fine as we have seen in years gone; there was too much mixture and too great lack of harmony.

The Premier Alpine Auricula was shown by Mr. J. Douglas, this being Duke of York.

Messrs. Phillips and Taylor, of Bracknell, staged the Premier Show variety, this being a specimen of Mrs. Henwood (green-edged).

Miscellaneous.

Lord Braybrook (gardener, Mr. J. Vent) staged a charming basket filled with *Primula hybrida grandiflora*, in colour rich rosy-purple. The strain was highly commended.

An Award of Merit was accorded to Messrs. W. Miles and Co., 16, Church Road, Hove, for an Auricula Yellow Gem, a rich, deep yellow variety, very prolific and robust.

East Anglian Daffodil Show, April 16th.

The East Anglian fanciers of the Daffodil can be honestly congratulated upon their second annual exhibition. The Public Hall and Saloon were filled to overflowing with exhibits—so much so that space for locomotion was too much circumscribed, and the room being much crowded during the afternoon and evening, movement became very difficult. In addition to the competitive exhibits, there were many contributions from the trade. A large ground space in front of the orchestra was occupied by a large collection of forced hardy plants from Messrs. Cutbush and Son, Highgate Nurseries, London, and the Ipswich people looked with wonder upon Magnolias in pots, the purple-tinted *M. Lenné* in particular being a source of great interest; *Prunus* in flower in several forms; *Pyrus*; also Lilacs, *Cytisus scoparius Andreanus*, &c., formed an admirably grown and arranged contribution, to which the Gold Medal of the Society was awarded. Mr. R. C. Notcutt, nurseryman, gained the same award for a well-grown representative collection of early flowering Tulips. Daffodils and other cut flowers filled another table, and there was also a capital group of miscellaneous plants on one side of the orchestra. A Gold Medal was also awarded to Messrs. Perkins and Son, nurserymen, Coventry, for some highly finished floral decorations, bouquets, baskets of flowers, lyre, wreaths, &c., a table of good things which were eagerly scanned by the fair sex in particular. Silver Gilt Medals were awarded to Messrs. Wallace and Co., Colchester, for a remarkable collection of their specialities in hardy plants, one of the best we have ever seen them stage; and to Messrs. Frank Cant and Co., Colchester, for a collection of lovely cut Roses—a new Tea variety named Lady Roberts, representing a greatly improved and glorified Sunrise, and other novelties. Silver Medals were awarded to R. H. Bath, Limited, Wisbech, for a very fine and varied collection of cut Daffodils; to Mr. J. W. Cross, nurseryman, Wisbech, for the same; to Messrs. Barr and Sons, King Street, Covent Garden, for a collection of Daffodils which included several novelties; and Certificates of Merit were awarded to Peter Barr and Lucifer and to Messrs. Hogg and Robertson, nurserymen, Dublin, for a collection of Irish-grown Daffodils and Tulips. Awards of Merit were made to Messrs. B. S. Williams and Son, Victoria Nurseries, Holloway, London, for cut Daffodils; to Mr. A. W. Wade, Riverside Nurseries, Colchester, for hardy plants; to Mr. Leonard Brown, florist, Brentwood, for Daffodils; to Mr. H. J. Southgate, nurseryman, Ipswich, for plants; and to Messrs. Croydon and Son, Ipswich, for charming floral decorations.

In the competitive classes Mr. J. W. Cross, Wisbech, took the first prize for twelve bunches of Trumpet Daffodils, which included Glory of Leiden, Madame de Graaf, Victoria, Empress, Emperor, &c., and a bloom of Glory of Leiden was selected as the best bloom in the show in the leading classes. Mr. Cross was also first with the best six bunches of true Trumpet Daffodils; Mr. T. G. Heatley, Woodbridge, was second, both having good blooms. The best six bunches of chalice-shaped varieties were shown by Mr. John Andrews, Woodbridge. In the classes for six bunches of Daffodils and for six bunches of Horsfieldi Mr. T. G. Heatley took the first prizes; and Mr. J. Andrews, who grows the double Daffodils finely at Woodbridge, was first with six bunches. Mr. T. G. Heatley was also placed first with the best twelve Narcissus, and Mr. J. W. Cross was second.

There were several classes for plants in pots. Mr. L. Brown, Brentwood, took the first prize for a collection of Daffodils, having some highly developed blooms. Mr. W. F. Burton, Ipswich, was first in another class for a collection. There were classes also for Azaleas, Richardias, *Spiræa japonica*, *Dielytras*, *Cinerarias*, *Cyclamens*, &c., all of which gave a pleasing variety to the exhibition. Mr. A. A. Bennett, Ipswich, had the best group of hardy flowering shrubs in pots; the Venerable Arch-

deacon Lawrence the best group of plants not less than twelve in bloom; Mr. Southgate was first with the best arrangement of tall Palms; and some excellent Strawberries in pots came from the gardens of Sir C. Domville.

An interesting class was that for a box or basket of cut blooms (Daffodils were mainly shown), not to have less than twenty-four and not more than thirty-six bunches, packed for despatch. Mr. White, of Spalding, was first; his Daffodils were good, and his method of packing excellent. Mr. W. B. Hartland, nurseryman, Cork, was second. The judges were set the difficult task of selecting the best bunch from these market boxes. Their choice fell upon Madame de Graaff, from Mr. Hartland.

Floral decorations were a very attractive feature. The most tastefully arranged table decoration of Daffodils came from Miss M. Steward, Gresham House, Newark; a charming piece of work. Miss M. Snell, Ipswich, was second. Miss Snell took the first prize with a charming table decoration of other flowers; Miss Orford, Ipswich, was second. There were classes for the best arranged market growers' stand, bouquets of spring flowers, stand of Daffodils, and various other decorative subjects. The attendance was good throughout the day.—R. D.

Liverpool Spring Show.

There were many circumstances to militate against the success of the Spring Show held in St. George's Hall, on Wednesday, April 16, the foremost being the late date, this having to be so worked as to not interfere with other previous engagements. Consequently several exhibitors were quite debarred from competing, and the large Palms and Ferns were absent. However, the exhibits were of a very high class, and this applies particularly to the wonderful display of Hippeastrums (Amaryllis) staged by Messrs. R. P. Ker and Sons, of the Aigburth Nursery, admired not only for their exquisite formation but also for the fact of there being several shades entirely new. Anthuriums in variety were noted, the Certificate awarded being well merited.

Another trade exhibit was from Messrs. T. Davies and Co., Wavertree, comprising splendid Narcissus, Hyacinths, Lilies, Tulips, and some choice Mushrooms, two Certificates being unanimously granted. Messrs. Rowlands, West Derby, had a grand exhibit; whilst the Orchids from Messrs. Jno. Cowan and Co. contained many perfect gems. Dickson's, Limited, w... Narcissus, were never in greater form.

Though somewhat late for Hyacinths and Tulips, there were several collections worthy of all praise, the three bulb in a pot class being quite perfect. Mr. McColl, gardener to J. W. Hughes, Esq., Allerton, being the winner with King and Queen of Blues, La Grandesse, Princess of Wales, Fabiola and Ida. Mr. E. R. Finch, gardener to J. Smith, Esq., Newstead, Wavertree, was a capital second. Mr. T. Hitchman, gardener to Arthur Earle, Esq., Childwall Lodge, won the premier position for twelve Hyacinths with massive bright coloured flowers, the selection being La Derby, La Grandesse, Czar Peter, Vuurbaak, City of Haarlem, Adeline Restour, La Belle Electra, Mountain of Snow, Roi des Belges, King of the Yellows, and C. Dickens. Mr. T. Wilson, gardener to O. H. Williams, Esq., was placed second.

A beautiful half dozen, distinct, come from Mr. J. V. Thompson, gardener to Mrs. Sinclair, Sefton Park. Dwarf of habit, and carrying most shapely flowers, was an indication of the Tulips generally; Mr. F. Keightley, gardener to Mrs. Duncan, Aigburth, scoring with pots containing Prince of Austria, Joost Van Vondel (white), Ophir d'Or, and Vermilion Brilliant in bright array: Mr. E. R. Finch being a good second. The class for six and same number of doubles is always popular, those of the first prize, staged by Mr. Thompson, being models of successful cultivation. Mr. W. Bastard, gardener to T. McClellan, Esq., Aigburth, had specially good pots of Polyanthus Narcissus.

The group of miscellaneous foliage and flowering plants brought one competitor only, Mr. W. Bastard, the judges awarding a second prize. Mr. E. R. Finch staged the best ten pots of hardy herbaceous and bulbous plants; *Dielytra spectabilis*, Solomon's Seal, and choice Daffodils were the most noticeable. Mr. Hitchman being a moderate second. Table decorations and baskets need very great improvement, Mrs. McGregor gaining only a third prize for the former, scarlet Tulips and *Spiraea* with *Smilax* trails being used. Mr. Wharton, gardener to Joseph Findlay, Esq., had the best basket. The Azalea mollis from Mr. Finch were excellent, as were his Rhododendrons and forced hardy plants, the latter containing well formed Hydrangeas, Lilac, and a fine Guelder Rose. The Primulas and Cinerarias from Mr. W. Lyon, gardener to A. Mackenzie Smith, Esq., Bolton Hey, Roby, left nothing to be desired.

The Hippeastrums (Amaryllis), always good here, quite surpassed all previous years, and were on a par with those of the trade; the winner being Mr. Ogston, gardener to A. A. Paton, Esq., Aigburth; Mr. T. Johnston, gardener to Mrs. Gilbert Moss, Aigburth, coming a very close second. *Acacia armata* was the best greenhouse plant, and some dwarf well-grown Callas each

came from Mr. Finch. The classes for three and one Azalea was taken by Mr. Hitchman, who won with single Fern, one hardy Rhododendron, two Mignonettes, &c. Mr. T. Carling, gardener to Mrs. Cope, Dove Park, Woolton, had capital pots Lily of the Valley, three Palms, or Cycads, and one Palm.

Table plants were numerous shown, Mr. P. Barber, gardener to Walter Holland, Esq., Carnatic Hall, having the best. Orchids have been seen much larger in plants, but the bloom was fully up to the average; Mr. C. Duke, gardener to J. F. Cross, Esq., Grassendale, having for three a hybrid *Laelio-Cattleya*, *Dendrobium Ainsworthi*, and *Oncidium Cavendishianum*. A lovely plant of *Oncidium Marshallianum* was the best single from Mr. Moorhouse, gardener to S. Brocklehurst, Esq. Cyclamen were shown by Mr. Lewis, gardener to T. Von Heyder, Esq., Mossley Hill, and a choice bouquet from Mr. Fairclough, gardener to L. S. Dixon, Esq., Blundellsands. During the afternoon W. F. Rogers, Esq., hon. treasurer, conducted the Lady Mayoress, Mrs. C. Petrie, round the Hall her ladyship expressing great satisfaction. The committee, with the chairman, Mr. Foster, and the secretary, Mr. Sadler, did valuable work, their labours being rewarded by a splendid attendance during the day.—R. P. R.

The Narcissus Fly (*Merodon equestris*).

Though less known, fortunately, in the British Isles, this two-winged fly has for fifty years been a sore and constant pest on the Continent, and Holland especially. The grub consumes the centres of the Daffodil bulbs. Dr. Bos, who wrote a lengthened treatise on the Narcissus fly a number of years ago, describes it as having been introduced to Holland from the southern parts of Europe. Our illustration furnishes a very good likeness of this injurious member, and shows it to be like a live-bee. It is half



The Narcissus Fly.

an inch long, hairy about the eyes and thorax, and with blunt abdomen. The thorax is usually yellowish-brown, or whitish in front; black behind. The abdomen is pale at the base, rust-coloured behind. The larvæ or grub, has been likened in shape to a rolling-pin; it is wrinkled, and greyish yellow, having a row of upward directed bristles round each ring. These larvæ eat the centre of the bulbs. Dr. Bos recommended as a preventive of loss from their depredations, that Narcissi bulbs should

be kept under water for eight days before planting, a process which, he says, will not injure the bulbs, but will destroy the grubs in them. The female fly should be kept from laying her eggs by the same means that are adopted against the Onion fly, viz., soot and salt, applied in the proportion of 2cwt. of salt and 40 bushels of clean soot to the acre as a broadcast dressing. This will tend to prevent the fly, and should be done early in the season. Nitrate of soda, at the rate of 4cwt per acre applied to the bulbs during showery weather, has been useful against the grub, and various remedies by themselves, such as soapsuds, soot and lime, and common salt, have all been tried at times with varying success. We have heard little of the fly in this country, but it is well to possess some facts of a pest so harmful. At a meeting of the Daffodil Committee (R.H.S.) on March 25, a discussion on the Narcissus fly was entered upon.

Warning against Frost.

A very interesting note on the value of frost warnings to fruit growers is given in the annual report of the American Weather Bureau for last year, which, as a daily paper says, has just been issued. This states that on the morning of February 23, 1901, the Bureau sent a telegram from Washington to Jacksonville, the capital of Florida, stating that "temperature will fall to-night to a minimum of between 20deg and 25deg F. at Jacksonville, and to freezing as far south as Tampa," and asking that as wide a warning as possible should be given. From the weather bureau office at Jacksonville 500 telegrams were at once sent to leading fruit growers, while every railway in the State energetically co-operated in warning growers that there would be a serious frost that night. The frost came exactly as forecasted, and an inquiry which the State authorities subsequently made among the growers of Oranges, Strawberries, and other fruits showed that this warning had saved at least £20,000 worth of fruits.

THE BEE-KEEPER.

Seasonable Hints.

The first calm warm day should be taken advantage of to clean all floor-boards. Cleanliness is inseparable from successful apiculture, and every precaution should be taken to keep hives clean, otherwise the health of the inhabitants will suffer, and the liability to catch various diseases increases. Considerable rubbish accumulates in a hive during the winter, which not only chokes the spiracles, or breathing passages of the bees, but from a hygienic point of view has a distinctly deleterious effect on their health. The retention of such matter at times affects the whole atmosphere of the hive, and is simply harbouring disease germs. Everything which may be a continuous and increasing source of vitiation should be removed or rendered innocuous. The great facility with which disease germs are conveyed renders the most careful rules insufficient to prevent their transport. In cleaning "W. B. C." hives there is hardly any difficulty. The floor-board is first lifted out with as little disturbance as possible, and to prevent the escape of bees is placed on a board the same size; the floor-board may then be scraped clean, disinfected and replaced, the whole operation being completed in about five minutes. Care must be taken to keep the brood-chamber perfectly level, or the combs may move and crush the bees between them.

In order to provide sufficient air the board must be perforated, or made in two pieces, and the joint left open about $\frac{1}{2}$ in. In addition to preserving the health of a colony this little attention assists them very much, as they will labour diligently every warm day until they have removed all the debris. Moreover, and this is the main point, it obviates unnecessary wear and tear, and the increased vigour attained is almost wholly unknown where bees are not sanitarily housed. If the naphthaline balls require renewing, two may be halved and placed in the corners furthest away from the entrance. Where frames have been spaced wider for wintering they should be reduced to $1\frac{1}{2}$ in from centre to centre, the ordinary brood raising distance, and any pollen-clogged or superfluous drone comb removed. It takes as much to raise two drones as three workers; if, therefore a large number of the former are brought into existence it reduces the honey harvest. When more room is required in the brood-nest, bars fitted with full sheets of foundation must be inserted on the outside of the combs that the bees cover. This is the safest way to extend the brood-nest at present. The bars can be placed in the centre when the bees begin working them out. Large quantities of water are used in the elaboration of chyle, the food of the larvæ, and if it is not available from natural sources in the vicinity of the apiary, it is important that an ample supply be given them by filling a tub or other vessel. To provide foothold for the bees and prevent them drowning a few corks should be thrown on the water.

While feeding is in progress, and there is a scarcity of food outside, robbing is likely to occur. Exposure of sweets at such a period will start any bees robbing, which in spring is carried on in a totally different manner to that in the autumn. The absence of any proper guard at the entrance of the hives makes it a comparatively easy matter for the marauders to enter and carry away the spoil. This makes it rather difficult to detect. The best plan is to visit the apiary on a fine day towards sunset, and if bees are observed actively entering and leaving some of the hives while the others are quiet, these should be carefully watched. The robbers will be coming out of the hive attacked and flying away with the well-known loaded swing and hum, and making straight for home. As prevention is better than cure, immediately strange bees are perceived hovering round, the entrances should be contracted to $\frac{1}{2}$ in, and on no account should syrup or other sweets be exposed. If, as sometimes happens, syrup is spilled it must be cleared away without delay or covered up.—E. E., Sandbach.

Publications Received.

"Bulletin de la Société Centrale d'Horticulture du Département de la Seine-Inférieure." * * * "Kew Bulletin," Appendix IV., 1902. Contents: List of Staffs in Botanical Departments at Home and in India and the Colonies. * * * "Meehans' Monthly," contains coloured plate of *Gentiana angustifolia*. * * * "Le Jardin" for April 5 contains a coloured plate of *Zonal Pelargoniums*. * * * "Pictorial Greenhouse Management," by W. P. Wright, Cassell and Co., 1s. * * * "Successful Advertising," 2s., Smith's Printing Agency, 28-32, Hutton Street, London, E.C. * * * "Thompson's Gardeners' Assistant," Vol V., The Gresham Publishing Co., 34, Southampton Street, Strand. * * * "The Book of the Rose," by Fester-Melliar, Macmillan and Co. * * * "One and All' Gardening," 1902, by Owen Greening. * * * "Revue Bibliographique des Sciences naturelles pures et appliquées." * * * "An Australian Colony," the Government Handbook. * * * "The Journal of the Department of Agriculture of Victoria."



Fruit Forcing.

CHERRY HOUSE.—When the stoning is completed the fruit will commence colouring, then syringing must cease, and not be had recourse to again until the trees are cleared of their crops. A good moisture, however, should be maintained in the house by keeping the surface of the border moist, damping it when it becomes dry, or if the trees are in pots, damping the floor two or three times a day. The temperature must not exceed 65deg from fire heat, and 55deg to 60deg at night, with a little ventilation, increasing it at 65deg, liberally at 70deg, subject to a little on constantly at the top of the house. The borders must be seen to for watering as required, and clear liquid manure may be given to trees in pots. Stop growths at the sixth leaf, and after once pinching the subsequent growths may be stopped to a leaf or two, laterals being pinched to one joint as made.

MELONS: EARLY PLANTS.—Directly the fruit commences to ripen lessen the supply of water at the roots, but not so as to distress the plants, for if the foliage has been kept clean and the roots in good condition a second crop may be had from the plants. Atmospheric moisture should be withheld, and a circulation of dry warm air ensured, maintaining a temperature of 70deg to 75deg, and 85deg to 90deg with sun heat. Cracked fruits are produced by a close and moist atmosphere with too much moisture and nitrogenous matter at the roots, which induces an excess of sap, and consequent effort at growth. If any fruits show a tendency to crack, cut the shoots about half-way through with a knife a few inches below the fruit, and diminish the supply of water at the roots and in the atmosphere. Cut the fruits before they are very ripe, keeping them on shelves in a warm house until they are in proper condition, or they may be removed to a fruit room for two or three days to become equally ripened all over.

SUCCESSIONAL PLANTS.—Fertilise the flowers when fully expanded, the atmosphere being kept drier and warmer, and ventilation attended to early, with a little constantly if there is danger of moisture condensing on the blossoms. Stop the shoots at the time of fertilisation, one joint beyond the fruit. To insure a full crop have a number of fruits on individual plants in the same stage of growth. Earth up the plants with some rather strong and rich loam after the fruits begin to swell, ramming it down firmly, placing a little fresh lime around the collar to prevent canker, and if it appears rub quicklime well into the affected parts. Plants swelling their fruits should be syringed freely in hot weather at about 3 p.m. or earlier if necessity arise for closing, damping the floor in the morning and evening, using liquid manure—that from stable or cow-house, diluted with five times its bulk of water, or Ichaboe guano, 1oz to a gallon of water, and not using more than a gallon of the prepared liquid to ten square yards. Shade only to prevent flagging. Ventilate freely in favourable weather, commencing from 75deg to 80deg, increasing or decreasing it during the day as may be necessary, maintaining a day temperature of 70deg to 75deg, 80deg to 85deg or 90deg with sun heat, closing between 80deg and 85deg, and if an advance be made to 90deg or 95deg, or even 100deg after closing it will materially assist the fruit in swelling and lessen the necessity for fire heat at night; but it must be accompanied by plenty of atmospheric moisture, keeping a night temperature of 65deg, falling to 60deg in the morning. If red spider appears, brush the hot-water pipes with a thin wash of flowers of sulphur and skim milk, and for aphides and thrips fumigate moderately on two or three consecutive evenings.

PITS AND FRAMES.—Train the growths out regularly avoiding crowding, and when the blossoms appear fertilise them about midday on fine days. Maintain a good bottom heat by linings, and admit a little air if there is danger to be apprehended from rank steam. Employ thick night coverings, as the nights are yet cold, but do not allow the covering to hang over linings of fresh manure, and so injure the plants by introducing rank steam into the interior. Sow seeds for raising plants to put out in pits and frames as they become cleared of bedding plants, and pot the seedlings as they require it.—St. ALBANS.

The Kitchen Garden.

SOWING VEGETABLE MARROWS.—Seeds may be sown singly in 3in pots filled with a mixture of loamy soil. Place the pots in a greenhouse or warm frame until the seeds germinate, after which cool, light treatment in a cool structure will suit until the seedlings are sufficiently strong and hardy to plant out. Varieties of merit include the Long White, cream, and green;

the Custard Marrow, ornamental and useful; and Pen-y-byd, a very productive variety of good flavour. Moore's Cream is another good and free-setting Marrow, with oval, cream-coloured fruit of excellent quality. The Bush Marrow may be grown in a limited space.

PEAS.—Good varieties of Peas to sow now are Dr. McLean, Best of All, Yorkshire Hero, Veitch's Perfection. It always pays to select good ground for Peas, and at this period of the year the drills should be drawn in shallow trenches, as by doing this it is possible to afford the rows abundance of moisture at a time when extra quantities are necessary for the proper sustenance of the plants and bringing the pods to perfection. Keep the ground clean and open by hoeing between the earliest rows, and fix sticks to others as they advance. New, branching, and twiggy Pea sticks, such as those obtained from Beech and similar trees, are better than old and decaying sticks of the previous year.

CELERY.—It is important to prick out a good stock of seedlings, both of the first and successional sowings, made in pans or boxes under glass. The first batch ought now, however, to be established, and the lights may be drawn from the frames on every convenient opportunity, finally fully exposing to prevent an undue amount of growth. Small plants to be pricked out now from the seed pans or boxes should be lifted with as much root as practicable, pricking them out 4in apart on a rich bed of soil in a cold frame. A further sowing also may be made now in a pan placed in the greenhouse, the plants being eventually pricked out on a bed outdoors. These will furnish the latest crop.

PLANTING POTATOES.—Complete the planting of early sprouted Potatoes as well as the midseason and late crops. All Potatoes should be planted on well pulverised ground, so that the drills may be easily drawn and the sets readily covered up. Except for extra strong and robust growing varieties the rows need not be planted wider than 2ft 6in. Early, short haulmed Potatoes have ample room at a distance of 2ft, the sets being 12in asunder in the rows. The depth of drills should be 4in to 6in.

SPRING CABBAGE.—The ground between Cabbages, whether they are well established and growing freely or have only recently been planted, should be stirred over with the hoe, so as to loosen the surface, kill seedling weeds, and promote the growth of the plants. At the same time the opportunity may be seized of scattering along the rows a little stimulant of some kind, which will encourage the growth. Vacant places in the rows may be filled with plants from the seed bed.

SPINACH.—The first sowing of Round Spinach is now growing freely, and a little thinning can be given. Down each side of the row loosen the soil well and afford a dressing of soot. A further sowing of this vegetable will be found useful. A wide, shallow drill, 2in deep, is suitable. Scatter the seed thinly in it and cover with fine soil. Finer leaves result from thinning out the seedlings, especially if growing in rich soil.

PARSLEY.—Being so much esteemed and in constant demand, a good bed of it should be made. If not previously sown, establish a bed now by this means, sowing either in drills or broadcast. To secure fine plants ample space is required, hence thinning severely must be adopted; but it may be done gradually as the plants begin to touch each other. The autumn sown plants are now commencing to grow, and as they are usually too thick, a large proportion may be removed with advantage to those left. Weeds also may be moved. A liberal dressing of soot will accelerate the growth of Parsley.—EAST KENT.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1902. April.										
Sunday ...13	W.S.W.	deg. 46.9	deg. 41.7	deg. 57.2	deg. 35.0	Ins. —	deg. 44.6	deg. 45.0	deg. 45.6	deg. 24.3
Monday ...14	S.E.	49.9	40.4	55.4	31.2	0.02	45.4	45.7	45.7	23.6
Tuesday ...15	E.S.E.	48.9	48.0	60.2	42.9	—	46.6	45.9	45.8	39.5
Wed'sday 16	W.S.W.	49.5	45.3	60.1	43.0	—	47.7	46.4	46.0	33.2
Thursday 17	W.N.W.	49.2	47.0	62.2	39.4	—	48.5	47.0	46.2	32.0
Friday ...18	W.N.W.	46.7	44.9	60.4	36.9	—	48.3	47.5	46.2	29.3
Saturday 19	S.S.E.	47.9	51.0	68.0	39.0	0.07	47.9	47.6	46.5	29.0
MEANS ...		48.4	45.5	60.5	38.2	Total. 0.09	47.0	46.4	46.0	30.1

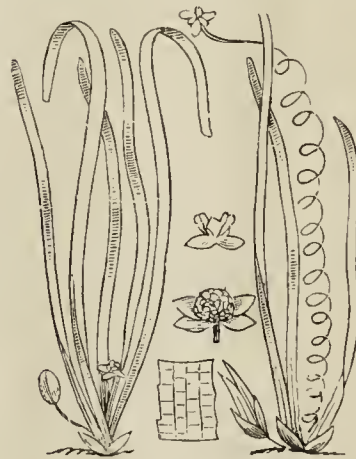
The weather has been fine during the past week, with bright sunshine, high winds, and little rain.



* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

DESIGNS (Fah.).—We advise you write to Messrs. Cannell and Sons, Swanley; and Messrs. Toogood and Sons, Southampton, who each publish pamphlets, we believe, costing a few pence, on the subject you seek for instruction. Let us know your success.

VALLISNERIA SPIRALIS (J. B. W.).—This beautiful and curious little plant, so often used in aquaria indoors in this country, is shown in our very small figure given herewith. We also extract the following particulars of the genus from Lindley's "Treasury of Botany," which you may not have, thus:—"This genus, so remarkable on account of the extremely curious manner



Vallisneria spiralis.

in which the process of fertilisation is effected, belongs to the order Hydrocharidaceae, and consists of two species, one of which is confined to Australia, while the other is widely dispersed over the tropical and warm regions of the earth—both of them, however, inhabiting only fresh-water rivers or lakes. *V. spiralis*, the best-known species, and one commonly grown in aquaria in this country, is found wild in many parts of Southern Europe. It is a perennial herb, and has a very short stem, bearing a tuft of thin narrow green grass-like leaves, hardly a quarter of an inch broad, but often a yard or more long with their apices finely sawtoothed: the stem also sending off suckers from its sides, which ultimately take root and produce new plants. The two sexes are borne on separate plants. The male flowers are extremely minute, white, and of a globular form, without special stalks, but seated upon and entirely covering a short general stalk of a conical form; the whole being enclosed while young in a very short-stalked spathe, which splits into two or three valves at maturity, when also the little flowers become severally detached from the general stalk, and rise by their natural buoyancy to the surface of the water, where their three-parted calyx expands and permits of the escape of the pollen from the anthers. The stamens vary from one to three in number, and alternate with several rudimentary ones. The female flowers are altogether different from the males. They have a cylindrical ovary, bearing three small spreading calyx lobes at the top, and contain three rudimentary stamens, and three large oval often split stigmas. Each flower is enclosed in a tubular spathe, borne singly at the end of a very long slender spirally-twisted stalk, which uncoils more or less according to the depth of the water, so as to allow the flower to float upon the surface, where it expands and is fertilised by its stigmas coming in contact with the pollen of one or more of the very numerous detached male flowers floating about. After this latter process has taken place, the spiral stalk coils up again, and by that means conveys the flower to the bottom of the water, where it produces a cylindrical berry varying from half an inch to two inches in length, and containing numerous cylindrical seeds marked with longitudinal ridges. The leaves of this plant form an exceedingly beautiful object under the microscope, the extreme tenuity and transparency of their cellular tissue allowing the observer to watch the movement of the fluid contents of the cells."

FUMIGATING WITH HYDROCYANIC ACID GAS (H. E. M.).—We had intended to return to the subject of fumigating with this gas, but pressure of other work has hindered us. No heat required; the cyanide, the sulphuric acid, and the water start a chemical action which gives off the deadly gas. The acid measured into a glass beaker, marked ounces on the side, and the cyanide (in a bag) is dropped into the acid and the water. Mr. Johnston does not state in his book the ounces of either water or sulphuric acid required, but the safest effectual quantity of the cyanide was 0.25 gramme per cubic foot of air space to be fumigated. But we may be able to give you fuller information in our next issue.

NAME OF INSECT (H. R., Kent).—The specimen sent is a somewhat battered specimen of the muslin moth, *Avelia mendica*, of the female sex, the male insect being of a uniform smoky grey. It is not an uncommon species, appearing usually in June. If taken now it would be considered an early emergence after the winter's pupation. The caterpillar feeds on various low plants, chiefly wayside weeds, during the autumn months.

CRUMPLED APPEARANCE OF VINE LEAVES (J. T. C.).—The leaves are in the condition known as warted, and the crumpled appearance is due to small green excrescences that form on the back or under side of the leaves, and are a sort of extravasation of sap through the cuticle of the leaf by the breathing pores or stomata, causing swelling there, and consequent puckering and depressions on the upper surface. The warts or crumplings are, no doubt, injurious to the leaves, as affecting respiration and their elaborating functions, and are the outcome of the respiration being suspended rather than any ill-health on the part of the Vine or Vines. The affection is usually caused by a too close warm atmosphere saturated with moisture, and can only be avoided by a more ventilated condition of the atmosphere without giving rise to chills.

AMOUNT PER CUBIC FEET FOR LEVELLING (Horticus).—"Can you tell me through the correspondence column of the Journal what is a reasonable amount per cubic yard to allow for levelling a lawn where nothing more serious than a heavy subsoil is likely to be encountered? Also the price per square yard for laying turf?"

[A great deal depends upon the distance the soil has to be removed. The excavating runs about 6d. per cubic yard, and the filling into barrow and wheeling 3d. for the first 20yds, 2d. being allowed for every additional run of 20yds beyond. As a rule about 1s. per cubic yard is generally allowed for barrow work, and for that of cartwork 2s., including excavating, per cubic yard, within half a mile of the work, and not exceeding one mile 3s., this also including excavating not exceeding one throw, or 6ft in depth. For general levelling ground, the depth not to exceed 1ft, 3d. per superficial feet. In levelling a lawn it is necessary to not only reduce the hills and fill up the hollows, but to keep the good soil on top, excavating deeper where the hills obtain so as to allow for good soil, and on the hills taking out the good soil so as to admit of indifferent, keeping an even depth of good soil all over the ground. For such work, including laying turf, the price is usually about 6d. per square yard. The cutting and laying of turf is generally 1s. per 100, each turf being a foot wide and 3ft long polled up, but it does not include levelling, carting, &c. Labour is so different in the several localities that it is difficult to state anything more than approximate.]

NAMES OF PLANTS.—*Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number.* (W. Everard).—The white Orchid is *Dendrobium infundibulum*; the other is *Lælia Jongheana*. (F. S.).—The pretty red-berried plant is *Fuchsia procumbens*, very decorative indeed. (H. R., Kent).—1. *Trachystemon orientale*; 2. *Pulmonaria officinalis*; 3. *Corydalis cava albiflora*. (Hon. C. B.).—From the appearance of the shoots and the undeveloped leaves, we believe your shrub to be *Rhus Toxicodendron*, the Poison Ivy. (B. F. T.).—1. *Dendrobium nobile album*; 2. *D. chrysotoxiceum*; 3. *D. densiflorum*; 4. *Lælia Schilleriana*; 5. *Oncidium Papilio*. (C. Jones).—1. *Davallia pycnocarpa*; 2. *Nephrolepis cordifolia*; 3. *Nephrolepis exaltata*; 4. *Pteris sulcata*, or *quadriaurita*, as it is more correctly named; 5. *Begonia manicata* (leaf); 6. *Begonia corallina*, with crimson flowers. (E. A. B.).—The true *Begonia glaucophylla*.

Observers' Notes.

The Sycamore, or False Plane, was seen at Chiswick with fully developed flowers on Sunday last, the 19th inst.

From all parts of the country reports reach us that the fruit trees, especially Plums, are wreathed with their white flowers.

Young fledged rooks may now be observed, as well as little redbreasts. The cuckoo's call is becoming more common. The whitethroat has also been heard.—J., Winchester.

The male catkins of the Black Poplar (*Populus nigra*) fell in great quantities from the branches of a tree at Chester on the 17th, and this, too, before the anthers were ripe. Does frost cause these downfalls amongst the catkins of the Poplars?—T.

I quite believe that many persons on seeing the above heading and the notes beneath it have asked the question, What is the value of these observations? Two or three answers can be given, and the first I would suggest, as being more pertinent to those who are living to-day, is that they tend to direct the faculty of observation of natural phenomena. They teach the beginner to look out for new signs of progress in the ever-changing circle of beautiful and interesting things in life. The good of such teaching must surely be obvious. And, secondly, these observations will stand as a record with which our great-grandchildren can compare the phenological date of their times. The hardy spring flowers have been called "the sensitive little thermometers of the floral world," and although some have said with

confidence that our spring seasons are colder than in generations past, yet the outdoor flowers seem to flourish, an argument to prove that but little real change has taken place. Were the spring seasons to become colder or milder no doubt the earlier coming, or delaying their coming, of migratory birds, too, would tend to become fixed to earlier or later date, as the case might be.—D.

Covent Garden Market.—April 23rd.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, cooking, bush.	6	0 to 8	0	Grapes, Hamburgh,	
„ Tasmanian ...	11	0	15	new, lb.	6 0 to 8 0
Bananas	8	0	12	Oranges, case ...	10 0 25 0
Dates, red V., doz. bxs.	5	6	0	Pines, St. Michael's,	
Lemons, Messina, case	10	0	12	each	3 6 5 0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	2 0	to 3 0	Lettuce, Cos, doz. ...	3 0	to 4 0
„ Jerusalem, sieve	1 6	0 0	Mint, doz. bun. ...	8 0	9 0
Asparagus, English, 100	5 0	6 0	Mushrooms, forced, lb.	0 8	0 9
„ Spanish, bun.	1 0	1 3	Mustard & Cress, pnt.	0 2	0 0
„ Toulouse, „	2 3	3 0	Parsley, doz. bnchs. ...	3 0	4 0
Batavia, doz. ...	2 0	0 0	Potatoes, English, cwt.	3 0	4 0
Beans, French, lb. ...	1 0	1 3	„ „ new, lb.	0 4½	5½
Beet, red, doz. ...	0 6	0 0	„ Algerian, cwt.	13 0	16 0
Cabbages, tally ...	6 0	8 0	Radishes, doz. ...	0 9	1 0
Carrots, new, bun. ...	1 0	1 3	Seakale ...	1 0	1 3
Cauliflowers, doz.	2 0	3 0	Spinach, bush. ...	3 0	4 0
Corn Salad, strike ...	1 0	1 3	Sprue, French, dozen		
Cucumbers doz. ...	2 6	3 6	bunches ...	8 0	9 0
Endive, doz. ...	1 6	0 0	Tomatoes, Canary		
Herbs, bunch ...	0 2	0 0	consignment ...	4 0	4 6
Horseradish, bunch ...	1 6	0 0	Turnips, bnch. ...	1 3	1 6
Leeks, bunch ...	0 1½	0 2	Watercress, doz. ...	0 6	0 0
Lettuce, Cabbage, doz.	1 0	1 3			

Average Wholesale Prices.—Plants in Pots.

Most of the undermentioned plants are sold in 48 and 32-sized pots.

	s. d.	s. d.		s. d.	s. d.
Acaeis Drummondii,			Ferns, var., doz. ...	4 0	18 0
doz.	18 0	to 0 0	„ small, 100 ...	10 0	16 0
Aralias, doz.	5 0	12 0	Foliage plants, var, each	1 0	5 0
Araucaria, doz.	12 0	30 0	Genistas, doz.	6 0	8 0
Aspidistra, doz.	18 0	36 0	Geraniums, dble., doz.	6 0	8 0
Boronia heterophylla,			Grevilleas, 48's, doz. ...	4 0	5 0
doz.	12 0	18 0	Hydrangea Thos. Hogg	10 0	18 0
Crotons, doz.	18 0	30 0	„ pink	10 0	12 0
Cyclamen, doz.	6 0	9 0	Lycopodiums, doz. ...	3 0	0 0
Cinerarias, doz.	4 0	6 0	Marguerite Daisy, doz.	8 0	10 0
Cyperus alternifolius			Mignonette	8 0	9 0
doz.	4 0	5 0	Myrtles, doz.	6 0	9 0
Dracæna, var., doz. ...	12 0	30 0	Palms, in var., doz. ...	15 0	30 6
„ viridis, doz. ...	9 0	18 0	„ specimens	21 0	63 0
Eria candidissima ...	18 0	30 0	Pandanus Veitehi, 48's,		
„ Cavendishii ...	21 0	48 0	doz.	24 0	30 0
„ Persoluta ...	18 0	21 0	Pelargoniums, doz. ...	10 0	15 0
„ ventricosa nana	18 0	21 0	Primulas	3 0	4 0
„ „ coccinea	18 0	21 0	Shrubs, in pots	4 0	6 0
„ Wilmoreana ...	9 0	12 0	Spiræa japonica, 48's,		
Ficus elastica, doz. ...	9 0	12 0	doz.	6 0	8 0

Average Wholesale Prices.—Cut Flowers

	s. d.	s. d.		s. d.	s. d.
Arums, doz.	2	0 to 0	0	Lily of the Valley, 12	
Asparagus, Fern, bnch.	1	0	2	bnchs	6 0 to 12 0
Azalea mollis, bunch	0	6	0	9	Maidenhair Fern, doz.
Bouvardia, coloured,				bnchs.	6 0 0 0
doz. bunches	6	0	8	0	Marguerites, white,
Camellias, white... ..	1	6	2	0	doz. bnchs.
Carnations, 12 blooms	1	3	1	9	„ yellow, doz. bnchs.
Cattleyas, doz.	8	0	12	0	Myrtle, English, per
Cornflower, doz. bun.	1	0	1	6	bunch
Croton foliage, bun. ...	0	9	1	0	Narcissus, Poeticus, doz
Cycas leaves, each ...	0	9	1	6	Odontoglossums
Cypripediums, doz. ...	2	0	3	0	Orange blossom, bunch
Daffodils, single, doz....	1	0	2	0	Primula, double white,
„ double „	1	0	0	0	doz. bunches... ..
Eucharis, doz.	2	0	3	0	Roses, Niphetos, white,
Freccias, doz. bunches	1	0	1	6	doz.
Gardenias, doz.	2	0	3	0	„ pink, doz.
Geranium, scarlet, doz.					„ yellow, doz. (Perles)
bnchs.	4	0	6	0	„ Maréchal Niels ...
Gladiolus, white, doz.					„ Generals... ..
bunches	12	0	15	0	Smilax, bunch
Gypsophila, doz. bun.	6	0	8	0	Stephanotis, doz. pips
Iris, Spanish, doz. bun.	12	0	15	0	Stock, double, white,
Ivy leaves, doz. bun. ...	1	6	0	0	doz. bun.
Lilae, French, white,					Tulips, white, single,
bunch	3	6	0	0	doz. bun.
Lilium Harrisii	3	0	0	0	„ scarlet, single,
„ lancifolium alb.	2	0	2	6	doz. bun.
„ l. rubrum... ..	2	0	2	6	Violets, single, doz ...
„ longiflorum	3	0	4	0	Wallflowers, doz. bun.



American Trusts and Home Protection.

"It is an ill wind that blows nobody good," and we sincerely hope that farmers may reap a much-needed benefit from the machinations of the American Beef Trust. Whether the benefit will be of any lengthened duration may be considered very doubtful; but that farmers who are well stocked with cattle in forward condition will have a profitable grazing season is fully assured. The American Beef Trust has been organised on an enormous scale, and its objects are, firstly, to curtail for a time the supplies of beef both here and in the States; and, secondly, as a result of that action to force up prices, and take a big profit out of the consumer. Already, and before the action of the Trust can possibly have any effect, the Butchers' Associations in many of the leading centres of population have decided to raise their retail prices all round.

In one northern city the rise will be from 1d. to 1½d. per lb., and will embrace all classes of meat. Whether the advance will be 1d. or 1½d. will depend on the cut, the butcher, and the customer. Last week some of the large markets were so glutted with fat stock that large numbers remained unsold; whilst sheep that were sold made most wretched prices. One farmer we know made 39s. 6d. each of some sheep for which he had 44s. bid at home. He lost 4s. 6d. per head besides marketing expenses. At the present moment farmers are hardly beset to hold what sheep they have, and they are not likely to be long held off the markets. Yet the butchers are raising the price of mutton by 1d. and 1½d. per lb. Prices in the wholesale markets go for nothing if the Butchers' Association so wills it. Truly we are ruled by Rings and Trusts.

That beef is scarce on both sides of the Atlantic, and likely to be so for some time, we fully believe. A shortage of hay and straw, combined with a poor root crop, in bringing about such a result on this side; whilst in the States the scarcity is caused by the high price of Maize, which for the past twelve months has been freely exported by American farmers instead of being used to feed cattle and pigs.

There seems to be no scarcity of cattle in America as regards numbers; but only of those which are now, or shortly will be, fit for the butcher. If the pasturage in the States has a favourable growing season there is no apparent reason why States beef should not be plentiful enough next autumn, and the same thing also may apply here; but for the next few months there must be a comparative scarcity of beef, and it only remains for us farmers to show as much unanimity and determination as these Trusts and Rings, and we shall get our share of the plunder, and not allow the middleman to absorb it all as he so often does.

As to the ability of the butchers to make mutton conform to beef in value we are somewhat sceptical. Still there is always a greater demand for mutton during the warm weather of summer, and the purchaser would certainly be attracted by an advantage in price. Dear beef might readily, therefore, bring about comparatively dear mutton; whilst, on the other hand, if we have a dry time the poor pastures of this season cannot possibly carry through a full head of sheep, and large numbers will be unnaturally forced on the market, prices will be low, and cheap mutton affecting the demand for beef would also affect its value. If farmers would only sell their cattle and sheep at home to the best customer, instead of putting them into those lotteries named fat stock auctions, they would not be so much at the mercy of butchers' rings and overstocked markets, a combination which often deprives the hard-working farmer of the margin of profit which his patient industry has earned.

The Government have taken the long-talked-of plunge, and propose to put a duty on imported Wheat and Flour. That a duty representing respectively 13½d. and 2s. per quarter of Wheat will have any appreciable effect on the value of the 4lb loaf is very unlikely. Provision dealers will, no doubt, be ready enough to impose ½d. per loaf additional; but, like the increase in the retail price of sugar, it will

soon come off again. If this duty does not materially affect the price of bread, it is not unlikely that, at any rate, as regards flour, the tax may in the future be much increased. There are sound economic reasons for such a course. A differential tax on flour which would be at all prohibitive would put renewed life into the home milling industry, which is in a sad state of decay; whilst the import of Wheat in place of flour would provide a welcome addition to the supply of bran and other offals, which are so useful to farmers, horse-keepers, and dairy men, and are now so unnaturally scarce and dear.

These small imposts on Wheat and flour will be useful as sources of revenue; but that they will help the farmer by enhancing the value of his produce we very much doubt. The foreign product, at any rate the Wheat, will come just the same as before, and the producer will pay the duty for the privilege of sending it. We may be wrong in theory, but that is our view of what the result will be in practice. The registration duty the Government propose is little more than a market toll, and the country should accept it as such.

There seems to be some uncertainty as to the scope of the duty. We imagine that Wheat and grain include Barley and Oats, as well as Indian Corn. If it does, the duty may give a useful lift to Barley growing, for the brewer uses almost every species of grain which he can procure at a cheap rate. In this connection, we notice a statement that Rice is specially included. As Rice is used in brewing, it would appear that the Chancellor of the Exchequer intends that no brewing material shall escape the duty.

Work on the Home Farm.

It would have been splendid now for the Barley drilling if the seed were not already in the ground and a good portion of it already making a green resurrection. The first leaf of Barley when fully up is the loveliest green imaginable, and the fields will soon be wavy seas of it. We wish that all the Wheat fields and pastures looked as green. The lea Wheat is still anything but satisfactory. Some fields which were promptly rolled when opportunity offered are improving, and may grow into decent crops, but others we know of can hardly be distinguished from bare fallow. The owners of those fields, through eagerness to get their Barley drilled, missed a golden opportunity of rolling Wheat a month ago. The chance has not recurred until now. To-day we saw a roll at work on a piece of land which we were informed was Wheat, but we could hardly see enough to swear by. It would have been wiser to plough this Wheat up and resow with Oats or Barley than to leave it as it is. Rolling will improve Wheat when it is there, but will not bring the dead to life.

The week has been dry and windy, and the roller was working to-day amid clouds of dust. It is needless to say how sheep pastures look. There is absolutely nothing to see, and how the poor sheep manage to exist in some fields is a mystery. The strong beasts which are out are keeping the grass very bare, and the young stirks and heifers, which should have been out also, are still in the yards, eating their heads off. Too much Mangold would not suit them, so they must have hay or clover. Fortunately we can buy some close at hand; but the price is high, and the extra expense will make them costly creatures to turn out to grass.

As we advised last week, Mangold must be sown at once. No delay, please! The land is drying rapidly, and moisture for germination is the great necessity in procuring a Mangold plant. As soon as the Barley is strong enough we shall put the Cambridge roll over it, and where the Clovers have not already been sown shall drill them broadcast on the small roller seams and cover them by means of a flat roller following.

Since commencing to pen the above we have had a beautiful warm rain, which is most acceptable after the frosts and drying winds. There need not be so much hurry about putting the Mangolds in now, but still the season is here, and Mangold like plenty of time; in fact, the capacity for growth of a Mangold is only limited by the advent of autumn frosts.

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C. E. WEST. ROUNDHAY.

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Clubbing and Galling.

MOST of us at some time or another in pulling up a Turnip or a Cabbage stump have noticed galls at the base of the stem or under the bulb of the Turnip, varying in size from a Pea to a small Walnut, as well as curious gland-like swellings, which have taken the place of the roots. The former of these diseases is galling, and the latter clubbing, often called finger-and-toe, from the fantastic shapes it assumes, and both are pretty often confounded and described as clubbing. There is, however, a very wide difference between them, though both not infrequently occur on the same plant.

Galling is caused by the action of a small weevil which deposits its eggs in the plant, from which maggots are hatched out, which continue to live in the tissues of the plant, the excitation of the plant cells causing the rounded swellings or galls, and being a similar process to the formation of Oak Apples or any other galls. If one of these galls is cut open it will be found to contain a maggot or grub, a familiar sight to anyone who has peeled Turnips. It of course injures the growth of the plant very considerably, but yet is not nearly so serious as the true clubbing, which often completely destroys the plant, and in any case prevents it reaching maturity. The latter is caused by a slime fungus, a parasitic growth which takes up its abode in the tissues of the roots and lives upon the nutritious juices of the plant, the cells containing and in proximity to the fungus being so stimulated thereby that they swell and produce the remarkable shapes which give the parasite one of its names. This swelling is accompanied, or speedily followed, by the decay of the roots of the

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diseased part, and the plant, thus deprived of the whole or a part of its root system, at first droops in the sun, or a drying wind, and soon dies altogether, the root up to the base of the stem going completely rotten. While this is happening, the parasite, finding its food supply gone, splits up into tiny granules, consisting of a portion of protoplasm contained in a comparatively strong cell-wall. These are spores, which may remain in a dormant state for a considerable time, the subsequent digging of the ground serving to disperse them in the soil. When the spore commences growing, the spore case bursts, and a motile spore escapes from it, which is capable of a limited amount of moving about in the soil. If it does not come across the roots of some living cruciferous plant—Cabbage, Turnip, Brussels Sprout, &c.—it dies; but if it does come across the healthy roots of a suitable host it enters the tissues and causes the root to club.

Such is the life history of finger-and-toe, and it will be readily perceived that it is a most insidious enemy to deal with. Its attacks are confined to members of the great natural order of the Cruciferae, and, as far as we are here concerned, with the Brassica family of that order—all Greens and Turnips. Gallings are not confined to that order, though very partial to it, and in this we have a tangible and visible adversary, and by changing the position of the cruciferous crop in the garden, and never leaving the stems to decay in the ground, we can gradually get rid of it, though we must take care in buying plants that we do not import it from other people's ground. But in the case of clubbing we have an enemy to deal with, the individual members of which are invisible to the naked eye, and not only that, but which, when food fails, can go into the spore state and live for a year or two till another batch of its hosts occupy the same ground again. Not only is it such a formidable enemy to extirpate, but the means of introducing it are so common and easy. When plants are bought it needs a very careful scrutiny indeed to detect its presence in its early stages. The purchase of manure, too, is a frequent source of infection, pieces of diseased root—Cabbage, Kohl Rabi, or Turnip—being thrown upon the manure heap, where the spores do not die, but find a resting place in any ground to which the manure is eventually applied.

The above account of the disease is sufficient to impress upon anyone the difficulty of dealing with it. Different people prescribe different remedies, none of them immediately or entirely successful, and all it is proposed to do here is to give a few hints as to prevention and alleviation. The common plan of leaving diseased plants to die upon the soil and be dug in is a most pernicious one. Even if the roots are pulled up when the ground is cleared, by which time the diseased roots will be fairly rotten, it is too late to avoid the spread of the infection in the soil, as most of the rotten part of the root, the part literally filled with slime fungus spores, will be left in the ground. The heroic method of preventing the spread of infection is to pull up the whole of a crop carefully as soon as it is seen to be diseased, and utterly destroy the roots. Few care to do this, and the next best course to adopt is to pull up any plant of the Cabbage family which is seen to droop badly on a sunny day when the main part of the crop remains fresh, as well as all stumps when they are done with. This would help to rid the ground of galling as well, and to a much greater degree than the slime fungus, as its scale of reproduction is much more limited, as also its vitality. This practice is rather a palliative than a remedy as regards clubbing, though in course of years it would become a remedy if persevered in. Another remedy which, though it takes a long time to accomplish, is pretty effective is to keep the ground free from all cruciferous plants for four or five years, thus depriving the parasite of its hosts. It should be stated here that certain cruciferous weeds are just as welcome hosts to this fungus as the Cabbage family, which, as stated above, belongs to the same order.

It is generally admitted that chalky soils are the least liable to infection, and it seems that the spores do not develop unless there is some acidity in the soil. This latter may partly account for the fact that the best thing to do to an infected soil is to apply quicklime in a finely powdered state, and to get the soil thoroughly impregnated with it.

This latter condition is difficult to bring about, the best method being the application of a small dressing every time the soil is turned over, so that in a couple of years or so the lime would have come in contact with every particle of soil. Whether this cures the pest by preventing that acidity of the soil which seems to be necessary for the development of the spores, or whether contact with the lime itself is fatal to them, cannot be stated; but the experiments of men like Professor Somerville, and others who have studied the question, all agree in showing that this is the best remedy to adopt, though the getting of the antiseptic in contact with each spore must, of course, take some amount of time.

Some of the readers of this article may never have heard of clubbing, or even of galling, though most must have seen the results of galling, even if they have never heard it described by name. Those who have never come across the clubbing disease are lucky, for if they lived in Essex it is almost certain that they would have some trace of it in their soil. A high authority states that there is no natural agency which interferes so disastrously with profitable rotation cropping in market-gardening as clubbing.—A. PETTS.

Grey-edged and Other Auriculas.

Unlike the gold-laced Polyanthus, the Auriculas, both the Alpine and Show varieties, are rising into wider popularity. Of course, the Alpine Auriculas are to be found in some corner of every garden, even if special attention is not laboured upon them; but from their very preciousness, their constitution, and complexity of quiet colour-beauty, the Show Auriculas demand careful pot culture. They are worth it, too. But just because of this, and the fact that people cannot "cut and come again," they will for ever remain in comparative obscurity except in the hands of a few enthusiasts. Our illustration on page 391 shows a perfect (if there is a perfect) type. Mr. John Forbes, of Hawick, Scotland, in a paper read before the Scottish Horticultural Association, at Edinburgh, on May 7, 1901, says of Auriculas in general: "The Auricula consists of many varieties, which are still increasing. They are divided into five classes, green-edged, grey-edged, white-edged, selfs, and Alpines, and their properties considered from two points of view, viz.:—those of the single pip, and those of the single plant. The pip should be round, large, smooth at the edges, without notch or serrature, and perfectly flat. The centre or tube should not exceed one-fourth of the diameter of the pip; it should be of a fine yellow or lemon colour, perfectly round, well filled with the anthers or thrum, and the edge rise a trifle above the paste or eye. The paste or eye should be perfectly round, smooth, and white, without crack or blemish, and form a band or circle not less than half the width of the tube all round it. The ground colour should be dense, whole, and form a perfect circle next the eye, and on the outer part be finely broken into a feathery edge; the brighter, darker, or richer the colour, whichever it may be, the better the flower, but if it be paler at the edges of the petals (where they are parted into five) or have two colours or shades, it is a fatal defect. The margin or outer edge should be a fine unchangeable green or grey, and be about the same width as the ground colour, which must in no part go through the edge. From the edge of the paste to the outer edge of the flower should be as wide as from the centre of the tube to the outer edge of the paste. In other words, the proportions of the flower may be described by drawing four circles round given points at equal distances, the first circle forming the tube; the second, the white eye; the third, the ground colour; and the fourth the outer edge of the flower; and the nearer they approximate to this (except that the ground colour, and the green or grey edge, run into each other in feathery points) the better the flower. So much for the properties of the pip, we shall now consider the properties of the plant. The stem should be strong, round, upright, and elastic, supporting itself well, and from 4in to 7in high. The footstalks of the pip or flowers should be so proportioned as to length and strength that all the pips or flowers may have room to show themselves, and to form a close, compact truss of flowers, not less than seven in number, without lapping over each other, and all alike in colour, size, and property. The truss is improved if one or more leaves grow and stand well up behind the bloom; it assists the truss, and adds much to the beauty of the flowers by forming a green background. The foliage should be healthy, well grown, and almost cover the pot, when exhibited in pairs. The pair should be of equal height and size, both in truss and foliage, and the colours of the flowers should be as much contrasted as possible: a green edge and a grey one, a dark ground and a bright one, a dark green edge and a light green edge, or any other contrast in the colouring, would be a point over equally good flowers not so contrasted."

**Lælia × Latona.**

This is a peerless species of Orchid, undoubtedly one of the most beautiful of all spring flowering kinds, and not very difficult to entice into flower. Messrs. J. Veitch and Sons, Limited, have shown some splendid plants of it at recent meetings of the Royal Horticultural Society in the Drill Hall, and other collections are seen to be graced with it also. The plant is still comparatively rare, however, and fetches a good price per plant—that is, five guineas for stout plants. This hybrid resulted from crossing *L. purpurata* with *L. cinnabarina*, both of which have been very frequently used for crosses, and the latter was in this case the seed parent. The flowers are from 4in to 5in in diameter.

**Lælia × Latona.**

Lip bright purple, sepals and petals yellow.

The sepals and petals are similar and of a uniform light orange-yellow; the lip is narrow, scarcely lobed, convolute over the column to beyond the middle, whitish at the base, the remainder red-purple bordered with orange-yellow. The margin of the apical spreading lobe is much undulated. The hybrid received a First Class Certificate in 1892.

The Week's Cultural Notes.

Disa grandiflora is a beautiful and showy species that unfortunately is not everywhere a success. It is very annoying to the grower who has given a great deal of care and thought to its culture and then been unsuccessful, to go to places where apparently little trouble is taken with it, but excellent results obtained. In some cases I am convinced the plants are ruined by coddling. They like ample root and atmospheric moisture, it is true, but its native habitat is the Table Mountain at the Cape, and it also likes an abundant supply of fresh air; must have it, in fact, if it is going to be a success.

Grown close to a greenhouse door kept constantly open in summer. I have seen this striking Orchid doing remarkably well, and such a position may be recommended. Frequent dampings of the stages, floor, and overhead the plants will be required, and fairly heavy shading during the day, to keep the temperature down. Otherwise let the plants rough it, so to speak, and they will be all the better for it. There is even yet time for a little

re-arrangement of the compost should this be necessary, but by now the roots and growth will both be active, and the less the plants are pulled about the better.

They must be kept growing now without a check right up to the flowering time, and this will ensure a beautiful display. A word of caution as to insects may be necessary. If thrips are on the plants at the time the flowers are opening, they will quite ruin their appearance by eating their way over the petals. Try, then, to have them perfectly free of these insects. Take them singly and place them in a moderately deep vessel of water; this will have the effect of driving out any insect from the compost. Then sponge the leaves and stems with a reliable insecticide used according to directions, or with a solution of softsoap and tobacco water.

Do this time after time if the insects are not all killed, for only a few left and the plant will soon be overrun again. Should *D. grandiflora* continue unsatisfactory, there are other species in the genus that may be substituted for it, though none of them are so showy. The best substitute is undoubtedly that splendid hybrid raised by Messrs. Veitch from *D. grandiflora* and *D. racemosa*, viz., *D. Veitchi*. It is almost equally showy to *D. grandiflora*, and will thrive where this does not, and as it is now fairly cheap, plants are within the reach of all growers.—H. R. R.

Sale of Orchids.

Messrs. Protheroe and Morris, on April 25, sold at the Central Auction Rooms, 67 and 68, Cheapside, E.C., a collection of established Orchids. Some of the lots realised very high prices, among which may be mentioned the following:—*Odontoglossum crispum*, two old bulbs, two leaf bulbs, strong plant, a superb variety, finely blotched and spotted on sepals and petals, grand lip—150 guineas; ditto, two old bulbs, two leaf bulbs, fine plant, very dark claret spots on sepals and petals—60 guineas; ditto, roseum, very good plant, fine flower, and densely spotted petals with minute spots—50 guineas.

Hydrocyanic Gas for Fumigation.*

THE CHEMICALS USED.

1. Cyanide of potassium; 2. sulphuric acid; 3. water. The cyanide must be practically chemically pure and guaranteed 98 to 99 per cent. It costs from 15d. to 18d. per lb., depending on quantity purchased at one time. I have found in my experience that the 25lb package is the most convenient, as it is put up in tin cans with screw tops, and can be conveniently handled by most nurserymen. I find that cyanide broken into lumps about the size of small hickory nuts gives the best results. It can be procured in small lumps by notifying the manufacturers in advance.

The best grade of commercial sulphuric acid, specific gravity 1.83, should be procured. Acid used in the manufacture of fertilisers, commonly called "chamber acid," should not be used. I have secured an excellent grade at a penny a lb. by the carboy. Of course, these chemicals are subject to change in price. It must be borne in mind that the acid cannot be placed in vessels of any kind, except those made of earthenware. I have found that an ordinary pickle jar or crock, holding from 2qt to 4qt, is best adapted for the chemicals. Sometimes a large snuff jar is needed in a large house. The cyanide should be weighed out and wrapped in strong paper bags, and kept packed in the can ready for use. A glass beaker, holding at least 8oz. with the ounce mark on the side, for measuring acid and water, is very necessary. This method will not admit of any guesswork, and the chemicals must be prepared strictly in accordance with figures given for any enclosure. A bottle with glass stopper, or a chinaware pitcher, should be kept on hand for the acid. With a pail of water and a tin cup the equipment is complete.

MAKING THE GAS.

1. Measure the acid in the glass beaker and pour it into the jar. 2. Measure the water and pour this on the acid. 3. Drop in a bag of cyanide, bag and all, close the door quickly, lock it, and leave the desired length of time—half an hour or more, as above stated. In the meantime the foreman should see that nobody enters or loiters about the house, as the fumes are highly poisonous. One man should always be held responsible for fumigation of nursery stock, and keep time, so that the house can be opened and thoroughly ventilated later.

There is a slight formation of steam when the water is poured on the acid, but this is not dangerous. On the other hand, however, when the bag of cyanide is dropped into the liquids there is a bubbling and hissing similar to that produced by a piece of red-hot iron in cold water. There is a dense cloud of so-called steam given off, which in itself is one of the most deadly,

* The article is taken (for the benefit of a correspondent) from the Journal of the Royal Horticultural Society, and is by Prof. W. G. Johnson, New York.

poisonous gases known to chemical science. It has an odour similar to that of Peach kernels. The lungs once filled with it would produce instantaneous death. Therefore, do not stick your nose over a jar or in a house to test the gas. The residue in the jar should be emptied after each fumigation, and a new stock made up each time.

HOW TO ESTIMATE CHEMICALS.

Suppose we had a room containing 564 cubic feet which we desired to fill with nursery stock and fumigate. I have found that 0.25 (twenty-five hundredths) gramme of cyanide per cubic foot gives satisfactory results in all cases. To estimate the amount of chemicals necessary for this room multiply 564 by 0.25, thus: 564×0.25 equals 141 grammes of cyanide. To reduce this to ounces divide by 28.35, as there are 28.35 grammes in an ounce, thus 141 by 28.35 equals 5oz (a fraction less), the amount of cyanide needed for this house. My rule is to use a half more acid, liquid measure than cyanide, and a half more water than acid. For this room we therefore needed 5oz cyanide by weight, $7\frac{1}{2}$ oz acid liquid measure, and $11\frac{1}{4}$ oz water, liquid measure. I discard the fractions and measure the chemicals in round numbers. Any house or enclosure can be estimated by following this outline rule.

EFFECT OF GAS ON NURSERY STOCK.

I made a series of tests in '99, and determined the physiological effect upon various kinds and grades of nursery stock. I found that June buds and low-grade Peach, commonly called "whips," will not stand the gas stronger than 0.18 gramme per cubic foot. If low-grade Peach and June buds are to be fumigated the amount of cyanide used should be reduced to 0.16 or 0.18 gramme per cubic foot. Use the same strength for buds, grafts, and scions, and do not leave them exposed for longer than a half-hour.

I have found that the tender terminals of fully-matured first-class Peach were not injured in the least with 0.25 gramme, even when they were fumigated one hour. No injury was noticed to stock of this kind until the amount of cyanide was raised to 0.45 gramme, and in this instance the terminals were only slightly injured. Apple was not affected, even when six times the normal strength was used, while Plum stood nearly three times the usual amount, and Pear from three to four times the normal dose.

Plants of Economic Value.

The last monthly meeting for the session of the Paignton and District Gardeners' Association was held on April 24, when Mr. W. C. Rossiter read a long and interesting paper on "Plants which supply us with food and comfort." Mr. T. Gard presided over a small attendance of members. Mr. Rossiter, in the course of his paper, said of the many plants which were used for food none were more useful and widely spread over the earth than the various kinds of grasses which were to be met with in every climate and all situations, from the Equator to the Polar regions. They were all cultivated, and it was said that none of the grasses which they used for food were to be found in a wild state. Various kinds of corn grasses were dealt with the speaker alluding to the discontinuance of Barley for making bread, although it used to be very largely used. He agreed with the Government putting a tax on corn, as he believed it to be beneficial to this country, and went on to say that the seeds of grain were very prolific, all the Wheat in Mexico springing from a few seeds. He considered Wheat was sown much too thickly in this country, and instanced the case of a gentleman who sowed Wheat 3ft apart with marvellous results. Maize came from America and South Africa, and was used extensively for feeding purposes in England. Flour was obtained from Palms, but, unlike corn flour, it was obtained from the trunk of the tree, and was called Sago, although it was not in its natural state when it reached this country, undergoing a process of half-baking. Arrowroot was made from a plant in the East and West Indies, but was a native of South Africa. They would scarcely expect any part of the Arum to be good for food, but when dried or heated it yielded a starch which was used for adulterating Arrowroot. In Egypt the Arum (or Richardia) was cultivated for the sake of its roots. The natives of some of the Pacific Islands lived chiefly on the Bread Fruit Tree, which bore fruit eight months of the year, and Yams were also useful for food. Of all plants none was more valuable than the Banana, and many millions made it their chief food, and it was as important as corn to us, or Rice to the Hindoos and Chinese. To show how prolific it was, 4,000lb would grow on the same space as 99lb of Potatoes. The Date Palm grew much more slowly; Dates were sold cheaply in England, but they were still considered a luxury.

There was also the Cabbage Palm, made up of white flecks, and quite solid. Palm wine was made from the Date and other Palms, the Palms yielding about a gallon of sap a day for a fortnight, after which the quantity decreased and the tree died. Palm

juice was, therefore, costly, and was not taken from those bearing fruit. Cocoa-nut Palms yielded fruit for sixty or seventy years, and, in good soil, eighty years, every four to six weeks, so that it was generally bearing flowers and fruit together, and was most luxuriant on the seacoast. The Fig was in many countries quite an important article of food, and has been cultivated for ages past, being in use among the Greeks, and being of great service to the Hebrews, as mentioned in the Bible. It might be cultivated in England if people cared for them. The Pomegranate was still a great favourite in the East, and was stored for winter use. Hops, which grew wild in England, came together with beer, and Mr. Rossiter referred to the busy hopping season, proceeding to speak of other plants, such as Raisins, Liquorice, Beets, Almond trees, Olives, Hemps, the Rush family, the various dyes, and medicinal plants from which drugs were obtained. The paper was highly appreciated and well discussed.—("Paignton Observer," Devon.)

The Fruit Supply of These Islands.

No more interesting or important article has appeared in the pages of the Journal for some time than that from the pen of "Herefordshire Incumbent," which appeared on page 289. The fruit supply of these islands! What a momentous question it is; how often has it been discussed; what possibilities it appears to hold out; and yet the satisfactory solving of it seems to be somewhere away in the hazy future. It seems to me to be a question for all; for statesmen as well as growers, for consumers as well as producers, for capitalists, business men, and everyone concerned in the feeding of the millions of these islands. As your correspondent rightly says, we do not seem to get on. Our population increases; the demand for fruit grows year by year; practical knowledge has been, and is still being, imparted; and yet, with it all, this country does not supply anything like the quantity of fruit that its population needs. There is surely a reason for this—possibly there is a remedy; but I am afraid the latter does not lie altogether in the hands of the grower himself.

Suggestions are sometimes made about protection, but I am afraid the remedy does not exist here. Fruit is not a luxury, but a commodity, like many other things beside breadstuffs, and to prevent its free entry to this country would be only the thin end of the wedge. The consumer does not care whether his fruit is home grown or foreign so long as it is good and cheap, and it must not be forgotten that he is the great power for legislation. To him protection means a rise in price, and he will have none of it, so we must look elsewhere for the remedy. Home producers may consider themselves handicapped in this respect—perhaps they are; but the fact remains that the foreigner must be accepted as a competitor, and as such he must be dealt with. Our fruit must be as good as his, or better; it must be produced in quantities sufficient to supply the people, and be presented in an equally pleasing manner. In short, there must be a revolution in our methods. We must learn more of the ways of our competitors, and endeavour to beat them at their own game.

One thing is continually being impressed upon us, and it is that we can grow hardy fruits in this country equally as good as anything that can be imported. Quite so! But we don't do it, and why not? In a measure, it is owing to the existence of certain establishments. Take the case of Apples, for instance. Only a few first-class varieties are necessary for the country's supply; but there are thousands of trees of doubtful origin, of varieties still more doubtful, and generally speaking inferior, that produce crops in their season. These crops find their way into the market, but how can they hope to compete with the best? It is not the quantity of good fruit that keeps down prices in seasons of plenty, but the superabundance of second and third-rate produce. If by one mighty sweep all these inferior Apples could be cleared away and be replaced by good approved varieties, there would be less need to fear foreign competition. But this is a question of time. I may say, without fear of contradiction, that, generally speaking, everyone who plants Apples to-day and who has planted during the past few years, selects only good varieties. These will tell in the future, and in accordance with the natural order of things the old trees and bad varieties will die out. But in the meantime, of course, our competitors are strengthening their hands as well, so this is only one item of a mighty question.

It seems to me that the whole system needs reorganising. It has grown to be such a common thing to throw the whole blame on the poor grower that I am pleased to see your correspondent goes beyond that, and strikes at the root of the matter. There is the question of the land, to begin with. Too often it is locked up and useless, so far as the community is concerned, and even when the door is opened a little way there is not much encouragement given to the would-be planter. Would an increase of peasant proprietorship make it better for the fruit-growing

industry? Possibly. At any rate, I can point to numerous instances of persons who own and live on small areas of land devoted entirely to fruit culture. They may not make fortunes, but they make a comfortable living, and on these small holdings more labour is employed by far than on the extensive and half-cultivated farms round about.

Wherever the blame may lie, it is a well-known fact that our system of distribution is as bad as it can possibly be. It is hard to believe that a small country like this produces more soft, quickly perishable fruit in seasons of plenty than its millions can produce; and yet it seems so, for during the past few years hundreds of tons of wholesome fruit have rotted on the ground because it did not pay to pick. Is co-operation on the part of producers impossible? There is a little community of persons engaged in fruit growing; yonder is a thickly populated manufacturing or mining district. A few miles of railway divide them, with several other obstructions in addition. The producers are anxious to sell, the consumers are ready to buy; but there is the gulf between them, and they both suffer. Can no way be devised by which these obstructions may be removed? Your correspondent certainly points to some healthy signs, but the movement is slow—very slow—and these difficulties in distribution are a mighty stumbling-block to the progress of the fruit-growing industry.

On the part of growers, it appears to me that there is too much individualism and a want of combination. The requirements of customers are not studied as they ought to be, and the foreigner takes advantage of the general neglect in this direction. Take Apples again as a case in point. Who caters for the late supply? Not the rank and file of home growers, certainly, for in accordance with a time-honoured custom, their main idea is to get the fruit from the trees and into the market with as little delay as possible. One grower might not be able to afford the means for providing proper storage, but twenty could, by a united effort. But with our fruit, as with our eggs, poultry, butter, and so on, we are suffering for lack of combination. One grower cannot affect railway rates or break down any monopoly, not yet a hundred if each one is a unit and working independently of the others; but if they were banded into one force, with a mutual object in view, there would be a chance of removing the obstacle.

I agree with your correspondent that we have the means in our power of bringing about the desired end, but before the machine can be set fairly going there must be a foundation to start with. There must be a breaking down and then a building up, so that the fruit grower of the future, who has capital, knowledge, and inclination, can start fair with competitors both abroad and at home.—G. H. H.

In my opinion fruit-growing is extending quite as fast as the demand for fruit increases, and does not need any such "booming" as "H. D." gives to the enterprise in your issue of April 24. The idea of keeping out imports is applied thoughtlessly to many products. We are told that we could produce all the eggs we require, instead of importing many millions annually; and so we could, if it were worth while to produce them at eighteen to twenty a shilling, the prices at which most imported eggs arrive. A similar declaration is applied to butter, which yields no living profit at the price at which the bulk of our foreign supply comes in. It is much the same with fruit. Whenever there is a big crop of Plums or Gooseberries prices sink to ruinous rates, as was the case last season; and American Apples often come into the country at 10s. to 12s. per barrel of nearly three bushels.

Fruit growers who understand and thoroughly attend to their business do fairly well, one year with another; but why urge wealthy landlords and other men of capital to compete with them on a large scale, and thus make their industry as little remunerative as corn growing is? "H. D." adopts the position of an enemy of the fruit grower who has a living to get by his industry. To recommend facilities for working men to grow a little fruit, and thus to raise themselves gradually to a comfortable condition, is all very well, and I have given such recommendations in public more than once; but to urge capitalists, who can very well take care of themselves, to rush into fruit growing, to the possible ruin of industrious men who can only make a moderate success at present, appears to me censurable. There is no "crying need" of "a combined effort to plant on a big scale"; but a crying need would be likely to follow—namely, a crying need of a living for the rank and file of fruit growers.—OBSERVER.

Victoria Regia at Kew.

This wonderful member of the vegetable kingdom, which is always treated as an annual at Kew, has again been planted in the great tank within the house (No. 10) named after it. Last year a fungoid disease so crippled the plant that it had to be destroyed. Cow manure was considered to have been an objectionable component of the compost, and has this year been omitted, and good loam and horse manure in layers have been employed.



New Rose, Souvenir de Pierre Notting.

The "Journal des Roses," in its number of January, published a chromo-lithograph of this novelty which the firm of Soupert and Notting, of Luxembourg, will put into commerce. It has been well said that the merits of this Rose must be considerable to bear a name so much esteemed.

The Book of the Rose.

This best of all the handy books devoted to teaching Rose growing, by Mr. Foster-Melliar, M.A., has been issued as a revised second edition, price six shillings, by Messrs. Macmillan and Co. A lighter quality of paper has been employed, consequently, though there are more pages, the bulk is slightly less than the first edition. The price, too, it will be observed, is materially reduced, and the clientèle of the book (which we will review soon) will be widened on that account.

Rose Wichuriana.

At first the use of this Rose was not detected, and it was allowed to fall out of the ranks. In America it was first used to cover grave spaces on account of its evergreen foliage. Then Mr. Manla hybridised it, and two interesting series, Manla's Triumph, and others, and Evergreen Gem, &c., some with yellow flowers, continued giving us novel additions. A French hybridiser continued the strain with colour variations, in René Andre and others, Rubra, a single rosy crimson, being a decided break. They fill a void for bank covering, and we would only ask that they be allowed to be creeping Roses, and not be tortured into climbers.

Hedgerows of Roses.

A clergyman calls attention to the fact that an American lady has at her own expense planted Roses, properly fenced in and protected, by the side of a new road between the villages of Niton and Whitwell, Isle of Wight. He remarks that "if wealthy landowners would only follow her example, and plant at once (it is not too late), many country lanes and villages might be made to look lovely, and England indeed would 'blossom as a Rose' at the Coronation of our Gracious King and Queen." [We would also call attention to the extensive Rose plantings undertaken during the last few years near Stanstead, in Essex, by Sir Walter Gilbey, Bart. There are thousands of dwarf Roses there, planted in beds and borders close to the public highway.]

Celery.

I had thought all had been said or written upon this subject that was needed. Cultural instructions on growing this vegetable have appeared in horticultural journals many times. Only the other day, however, I was shown some "heads" which had been badly crippled in the earthing-up process; about the worst specimens of careless gardening I have noted for many a year. Celery, we know, must be properly blanched for most purposes, but to pile the earth above the centres of the plants, and to then deliberately tread it down, is certainly not in accordance with the advice found in these pages.

An early start must be made when Celery has to be grown and finished by August or in the beginning of September. I usually make a sowing about the middle of February of some dwarf growing sort. White Gem is the best I have thus far found, and the variety appears to have become very popular. Prick off the young plants, when ready, into boxes containing light, rich soil, made moderately firm. A good place for raising and growing the young plants in, until they obtain a hold of the soil, is a frame over a hotbed, where a moderate amount of bottom heat is at command. From this position they may be transferred to a shelf or stage near the glass in a recently started vinery or a warm greenhouse, and when large enough and of sufficient strength they should be removed to a cold frame for hardening previous to planting in the trenches outside.

The treatment for sowings in March is practically the same, unless large numbers of plants are required. In such a case it is a better plan to sow thinly in a frame over a gentle hotbed, and allow the young plants to remain here until planting time, taking care they are properly inured to the weather before putting them out. In April, for the late crops, seed may be sown outside in well prepared soil in a warm position. If

sufficient room is allowed, and thin sowing is practised, it is not necessary to prick off the plants, but they may be drawn as required, and as trenches can be got ready for them. In this way one check is saved, and checks of any kind are not conducive to the well-being of Celery, scarcely anything shows the after effects more.

In growing Celery for exhibition the single row system is by far the best, but for ordinary use the plan of having a double row in one trench has proved very serviceable. Four feet from centre to centre of each trench I have found to give ample room for the small growing varieties, giving an additional space of a foot for the larger kinds: the plants are usually allowed to stand 9in or 10in apart in the rows. Showery weather should, as far as possible, be chosen when planting out, or the work is best done towards evening in a dry time. The trenches should be well soaked before planting in this case, make the plants firm, and give a good watering when the operation is completed. Water must be supplied unstintingly in hot, dry periods, if crisp, tender "sticks" are to be produced. Some growers recommend the use of manure water, but beware of strong doses, as this is a prolific cause of hollow, pithy stems. Liquid manure may be a great help in the case of backward and weakly plants, but plenty of clear water, with an occasional dusting of soot is all I have found necessary. On no account use nitrate of soda if the crop has to stand through the winter to be used late.

I am not an advocate for very deep trenches, in fact fine Celery can be, and is, grown without the use of these. Where a heavy clay soil in a wet situation has to be dealt with, it is by far the best plan to plant on the surface. But on light, sandy ground the trench is a boon; the roots are placed in a cooler and moister medium, and water is more readily and efficiently supplied. Earthing should be commenced six weeks before the Celery is required for table. Much discussion has taken place as to the merits of doing this all at one time or in dribblets. It may be well to point out that when the bulk of the earth is at once piled up to the stems, there is a tendency for these to be split and misshapen at the lower part. This I find is avoided in a great measure if the work is taken in hand in good time, and the best plan is to earth up at two or three times. Whilst this is done the plants ought to be held firmly together by hand or should be first tied, neither tightly nor too high up, otherwise the centres will be crippled. Nor is it at all needed that there should be any thumping or treading of the soil, such as one sometimes sees. Suckers and any broken or decaying leaves should be taken out, and to finish the ridges these ought to be beaten smooth with the back of a spade, so that rain may be thrown off. Varieties are numerous enough if we may judge by the names found in catalogues. Besides, the

one already mentioned I have found Sandringham White excellent as an early kind. If a larger is required, Wright's Giant White may be grown. Sulham Prize is another well known sort. For quality I have as yet found none to beat Major Clark's Red.—JOHN WRIGHT, Hopton Hall, Gardens.

The Value of Narrow and Sunny Borders.

In the early spring there is always a feeling both among owners as well as gardeners, that the first crop of any kind calls for greater value and appreciation, and these narrow borders lend themselves to so many varieties of garden crops during the year that any particular fancy can be met therefrom. From a new year sowing naturally the Radish suggests itself as being the first crop available, which it is; Lettuces, Carrots, Potatoes, Peas and Turnips being others that might easily be made rotative. From houses kept at differing temperatures one can easily define the difference in the advancement of the crop outside, and in nothing is this more marked than from Potato planting. At one time a range in four divisions here, each kept at slightly varying temperatures, one could easily gauge the difference even to one set in the rank of early Potatoes which were growing outside. Radishes, which are treated as a customary catch crop, prove the same truth in their maturity, and it is not at all difficult, even on such narrow plots, to go to the extent of a third crop all advancing together. Radishes have been gathered in six weeks from the time of sowing, infinitely of better appearance than frame grown ones, because of the lesser length of green top. Potatoes need protection at night when frost threatens, otherwise the gain is not so much over the more open border. Fir or Yew branches answer this purpose exceedingly well. At the present time, while the open south and west borders occupied by Potatoes show just merely the lines, those under forcing houses are from 6in to 9in above ground, the gain at digging time being in like proportion. When Potatoes are grown in frames for the earliest batches, there is much relief in the employment of a narrow strip under a sunny wall for providing a succeeding crop. The same remark applies also to Lettuces, whether as an autumn or spring sowing. The Commodore or Golden Queen types of spring Lettuce are very quick in their growth and maturity so favoured, and sown either in boxes indoors

to be afterwards planted, or direct, there is a much greater crispness of leaf than is possible from ordinary autumn sown stock. The same warmth may, however, be placed to useful account for forwarding the autumn sown stock, and with average winters full-hearted heads may be had very early in the year. The Paris Market is an admirable Lettuce for such a course, as this is fairly hardy, tender in the heart leaves, and of larger size than the others named. Strawberries, Cauliflowers, and French Beans are other garden crops that may be named as available for warm spots, such as these narrow borders provide to advance their respective crops, and which conveniently form the connecting link between the indoor forced and outdoor stock. The necessity of utilising such small aids to progress is much more marked in some gardens than in others. With outside tree shelter and southern slopes there are gardens in which an ordinary border will bring on its crop with the pace of a hothouse wall in another where the surroundings are of less favoured environment. This I have observed in many instances, and noting this gives the stimulus to the utility of warm spots as a means of comparative advancement. These narrow borders, beside being convenient, are quickly and easily planted, and as easily protected from night frosts, and while they serve to advance the spring connections, they can be turned to other useful accounts later. The growth of Potatoes, Peas, Lettuce, and Radishes would not, for instance, interfere with the planting of Tomatoes for a later summer and autumn crop, and thus employment may be found for the ground for a good portion of the year.—W. S.



Groups of Geraniums, white Malvas, and other plants.



Clematis montana over an Archway.

Aldrovanoca and the Bladderwort.

Aldrovanoca vesiculosa is an aquatic found in Europe, Australia, and India. Each leaf has two semicircular lobes, but it is not known whether it is strictly insectivorous, although in an Australian variety a beetle was found partly dissolved. A slide was thrown on the screen depicting the capturing apparatus of Venus's Fly Tray and Aldrover, which takes much longer to dissolve the insect caught.

The Bladderwort, which might be oftener grown, is an aquatic, and, when dead, the products of decomposition are sucked in by the rod-shaped cells. It is also known to grow in the concave leaves of a *Tillandsia*, likewise amongst Mosses, Liverworts, and vegetable mould, but the process is similar. Toothwort is a parasite on forest trees; it kills the Poplar, but does not injure the Oak. By the formation of suckers it fastens by means of a gummy secretion to the trees. The leaves have chambers. The moment the glands are stimulated they send out protoplasmic threads. These hold any insect, and, though no digestive secretion has been found, yet the appearance of claws, legs, bristles, &c., is suggestive of a charnel house. The inference is, therefore, that they must be absorbed. *Bartsia alpina* has a wide habitat. The plant is of a sombre dark violet hue, and the name was given by Linnæus in memory of the death of his friend Bartsch. The chief feature is the subterranean shoots having root buds. Owing to the formation of the scales there are a great number of ducts by virtue of the overlapping of the scales, and though no digestive fluid has been found, it is suggested that it acts similar to the Toothwort. The reason of its acquiring this habit is due to its short vegetative season, as it is an inhabitant of the Arctic zone, and the summer lasts only about two months. A number of other slides having been shown, and ably dealt with, the lecture was brought to a close with the remark that while some plants took nitrogen in the form of protoplasm, and were able to convert it into soluble form, other plants required to have it applied artificially by hand in the form of nitrate.—A. O'NEILL.

NOTES



NOTICES

The Dahlia Analysis.

We had hoped to publish Mr. Mawley's analysis of Dahlia varieties in the present number, but its preparation requires longer time. We will publish this useful and important guide to the varieties of this increasingly popular flower in our next, May 8, which will also contain articles by experts on all sections of the Dahlia, with interesting illustrations. Extra copies are being dispersed to growers.

Rev. Prof. G. Henslow, M.A.

After a four-months absence at Cape Town, the Rev. Professor George Henslow, M.A., V.M.H., has returned again to 80, Holland Park, London, W., and has resumed his secretarial duties of the Scientific Committee (R.H.S.), kindly undertaken by Dr. M. T. Masters during his absence. We hope to see and hear Mr. Henslow at his floral demonstrations in the Drill Hall again before very long.

R.H.S. Journal.

The quarterly Journal (vol. xxvi. part 4) of the Royal Horticultural Society reached us on the morning of going to press. Advances are still made in the amount and arrangement of the matter contained, and among other more apparent features we notice a complete index, numerous original illustrations, especially in connection with the essay on Mangoes, and two coloured plates—no less!—illustrating Carnation diseases. The "Common Place Notes" and the "Abstracts" from current periodicals we find highly useful. Alas! however, the awful trouble of having to cut the pages, and we are so busy.

Hardy Plants on Arches and Rockeries.

The groups of Geraniums, *Malva moschata alba*, Aspidiums, and other plants illustrated on page 390, represent, though rather indistinctly, a corner in Mr. Arnott's Rosedean garden near Dumfries; and the small-flowered *Clematis* illustrated on the opposite page shows how the owner bedecks his archways. *C. montana* is very useful for such positions, and perhaps the Traveller's Joy (*C. Vitalba*) would be equally as serviceable in a like situation. The naturalising of plants in groups of a sufficient size to make a massive display is the most effective form of gardening, and one that should be followed. Even the commonest plants have a distinct character and interest, which is only seen at its fullest when there are a number of representatives in one group.

Colonial Exhibition in the Royal Exchange.

On Saturday next the Colonial Exhibition, which has been held in the Royal Exchange, London, since March 10, closes. The admission has been free, and thousands of visitors have gone there, seen, read, and heard of the resources of part of the British Empire, and must have been the better for the education thus received. The Colonies represented are Canada, North Borneo, Rhodesia, and Western Australia. The raw products and many manufactured articles derived out of these countries have formed the show. Rhodesia and Canada were face to face on opposite sides of the Exchange, and perhaps the latter, with her minerals and timbers, engaged the greater amount of space. Rhodesian minerals and gold were largely shown, and model gold cleaning or extracting machines were constantly at work. Photographs of native scenes and mining settlements were numerous and very interesting. North Borneo tobacco, rice, sago, gutta percha, coffee, beeswax, pepper, edible birds'-nests, rattans, hemp, coal and gold formed a most pleasurable exhibition from that State and the grapes, wines, Jarrah, Karri, Tuart, and other woods, as well as a collection of wild flower paintings in the Western Australia section were, together with the cereals, very interesting. The West Indian Islands were represented by tropical fruits, sweet potatoes, yams, and spiccs. Various companies interested in parts of individual Colonies presented illustrated portfolios to certain of the visitors, and the official guide was a valuable book by itself.

Appointment.

Mr. J. Barnes, late of The Gardens, Ham Court, Upton-on-Severn, has taken up the duties of head gardener at Calthorpe Towers, near Rugby.

Weather in the North.

The only occurrence of frost was on the morning of Tuesday, when there was a slight touch. The week generally has been dry, and easterly winds have been frequent. Friday, the 25th, was remarkably fine, as was the afternoon of Saturday, but Sunday was cold and chilling. A good deal of sunshine has brought vegetation well forward—B. D., S. Perthshire.

Cyclopædia of American Horticulture.

The last of four volumes (R—Z), completing the issue of this compendious work, has reached us from the publishers, Messrs. Macmillan and Co. The editor, Prof. L. H. Bailey, furnishes a very interesting retrospect of the elaborate work and arrangements that have been required from first to last in the production of the Cyclopædia, but he and his assistant editor, Mr W. Miller, as well as others—and they are many—who have had a share in it, must be well satisfied that such a record has been secured now for all time. We hope to review the work at once.

Auction Sale at Hale Farm Nurseries.

Messrs. Protheroe and Morris will conduct a great spring clearance sale of immense quantities of nursery stock, on the premises, the Hale Farm Nurseries, Feltham, Middlesex, on Tuesday, May 6, 1902, at eleven o'clock precisely. The stock may be viewed any day prior to the sale. Catalogues may be had on the premises, of the auctioneers, 67 and 68, Cheapside, London, E.C., and others. By order of the Receiver and Manager appointed by the Chancery Division of the High Court of Justice of the business of Thomas S. Ware, Limited, without reserve, in order to reduce the stock.

Royal Horticultural Society.

The Royal Horticultural Society will hold their Great Annual Flower Show in the Inner Temple Gardens (by kind permission of the Treasurer and Benchers) on May 28, 29, and 30. For schedule of this show apply to the secretary, R.H.S., 117, Victoria Street, London, S.W., enclosing a stamp. * * The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, May 6, in the Drill Hall, Buckingham Gate, S.W., 1 to 5 p.m. A lecture on "The Classification of Plants by Evolution" will be given by the Rev. Prof. G. Henslow, M.A., V.M.H., at 3 o'clock. * * At a general meeting of the Society, held on Tuesday, April 22, fifty-two new Fellows were elected, amongst them being Lord Deeies, the Earl of Mount Edgecumbe, Viscount Peel, Sir William Johnson, Bart., Sir Arthur Lawson, Bart., Sir Chas. Wolsley, Bart., and Lady Drummond of Hawthornden, making a total of 452 elected since the beginning of the present year.

Royal Gardeners' Orphan Fund.

The fourteenth annual dinner in aid of the Royal Gardeners' Orphan Fund will take place at the Hotel Cecil, Strand, W.C., on Thursday, May 8, 1902, under the presidency of Leopold de Rothschild, Esq. The following gentlemen have kindly consented to act as stewards, and will be glad to receive subscriptions for the chairman's list:—Messrs. W. R. Alderson, Bell Farm, Walton-on-Thames; J. Assbee, Covent Garden Market, W.C.; W. Y. Baker, Upper Ground Street, S.E.; G. H. Barr, 12 and 13, King Street, Covent Garden, W.C.; W. Bates, Cross Deep, Twickenham; H. J. Cutbush, The Nurseries, Highgate; W. H. Cutbush, The Nurseries, Barnet; G. Cuthbert, The Nurseries, Southgate; J. Douglas, Edenside, Great Bookham; G. Gordon, Endsleigh, Priory Park, Kew; W. Howe, Park Hill Gardens, Streatham; J. Hudson, Gunnersbury House Gardens, Acton; H. J. Jones, Ryecroft Nursery, Lewisham; J. F. McLeod, Dover House Gardens, Roehampton; G. Monro, Covent Garden Market, W.C.; J. W. Moorman, Victoria Park, E.; T. A. Morris, 66, 68, Cheapside, E.C.; Arnold Moss, 39, King William Street, E.C.; W. Nutting, 106, Southwark Street, S.E.; W. Poupert, Marsh Farm, Twickenham; G. Reynolds, Gunnersbury Park Gardens, Acton; G. H. Richards, 234, Borough High Street, S.E.; W. W. Richardson The Nurseries, Hassoeks; W. Roupell, Harvey Lodge, Roupell Park, S.W.; T. W. Sanders, 124, Embleton Road, Lewisham, S.E.; N. N. Sherwood, 152, Houndsditch, E.; J. Smith, Mentmore Gardens, Leighton Buzzard; H. J. Veitch, 34, Redcliffe Gardens, S.W. The secretary is Mr. Brian Wynne, 30, Wellington Street, Covent Garden, W.C.

Death of Mr. Alex. Garven, Kilmarnock.

The death occurred on April 24 of Mr. Alexander Garven, draper, one of the best known and oldest merchants in Kilmarnock. Deceased, who was in his seventy-sixth year, had carried on his trade in the same premises for a very lengthened period. He had great skill and excellent taste in the cultivation of flowers and fruit trees.

Flowers from the Fen Districts: Record Consignments.

During the past week record consignments of Narcissus and Daffodil bloom have been despatched from the Fen districts to London and other centres. On one evening, from Spalding station alone no less than fourteen tons of these flowers were despatched. The total quantity sent this season has been nearly 200 tons, whilst large consignments have also been sent from other stations in the Fens. Every year there is an increasing acreage put under bloom in South Lincolnshire.

New Horticultural Society at Hastings.

On Thursday evening, April 24, a decidedly horticultural aspect was imparted to the Central Hall at Hastings by the display in the room of a very fine collection of plants and flowers. The occasion was the first meeting of the recently formed Horticultural Society. There can be no doubt that the society has made an excellent start, for not only were the specimens numerous and excellent, but there was a very fair attendance. The chairman offered his sincere congratulations to the society on the circumstance that there were from 120 to 130 members. He hoped that a long and useful life was in store for it. Mr. T. J. Mitchell then read a paper on "Aims and Objects of a Horticultural Society," and another on "Spring Flowers." Mr. Mitchell announced that one of the firm of Sutton's, of Reading, had told him they would be pleased to receive a visit from the members of the society during the summer, and would undertake to have brakes at the station and bear the cost of entertaining them.

The London Dahlia Union.

A meeting of the supporters of the above was held at the Royal Aquarium, Westminster, on April 23, at 4 p.m., Mr. William Cuthbertson, Rothesay, in the chair, there being a good attendance. A balance-sheet for last year's show was submitted and approved. Mr. John Green, Dereham (Hobbies, Limited), was elected chairman, and Mr. Richard Dean treasurer and secretary for the year ensuing. The secretary announced that he had arranged with the authorities of the Royal Aquarium that the next exhibition should be held on the corresponding days of last year—namely, Tuesday, Wednesday, and Thursday, September 16, 17, and 18. Messrs. Hobbies and Co. offered special prizes for nine bunches of Cactus Dahlias, six blooms to form a bunch, for competition among amateurs; and Mr. R. Dean announced there would be a new class for amateurs—six bunches of Cactus Dahlias, three blooms of each. With these additions the schedule was passed for circulation. The Royal Aquarium Company will give a similar sum to last year as a contribution to the prize fund. The chairman and secretary were appointed a committee to carry out the arrangements of the exhibition of the present year.—R. D.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1902.										
April.										
Sunday ...20	S.S.W.	deg. 56.2	deg. 51.7	deg. 62.3	deg. 45.4	Ins. 0.01	deg. 50.0	deg. 48.0	deg. 46.7	deg. 35.2
Monday ...21	S.S.W.	53.9	50.8	61.0	46.5	0.02	51.0	48.7	46.9	35.5
Tuesday ...22	S.S.E.	53.7	51.6	56.7	53.2	0.05	51.7	49.2	47.2	46.0
Wed'sday 23	S.W.	53.2	48.0	60.7	43.7	—	50.5	49.3	47.2	33.3
Thursday 24	S.S.W.	55.9	49.6	63.2	39.7	—	51.2	49.6	47.6	31.8
Friday ...25	S.S.W.	57.7	50.2	64.7	36.0	—	51.6	50.2	47.9	27.8
Saturday 26	E.S.E.	47.9	44.7	57.0	43.2	—	51.8	50.3	48.0	40.0
MEANS ...		53.9	49.5	60.8	44.0	Total. 0.08	51.1	49.3	47.4	35.7

Fair weather has prevailed during the past week with little rain and strong wind.

Syon House, Brentford.

Perhaps the most interesting season in which to visit the Duke of Northumberland's garden at Syon House, near Brentford, in Middlesex, is in March or April, for Mr. George Wythes, the chief there, is then busiest, or most "thrang," as the Scotsmen would say, with matters of every description that pertain to the raising of plants and the forcing of fruits and vegetables. It was the truth that was uttered when a friend said to me of Syon, "That place is like a nursery, so many plants are there to propagate and care for." The hardy fruit and vegetable quarters are all within four good walls, and so are the greater number of the glass houses. But a very large number of conservatories and plant houses are variously scattered in other parts of the garden, and entirely outside the walled part.

The vineries are in one long, lean-to range, facing south. No old Vines are found at Syon; the constant and heavy cropping wears out the vitality even of the best, and it is found necessary to plant afresh every few years. But this is considered, and each season, in February, a large number of Vine cuttings are rooted as prospective substitutes. The early Muscat house contains young canes, each plant having two rods, one of which (the older one) will bear a crop this year, while the other is doing its best to grow thick, stout, and well-ripened in view of the demand that will be made upon it to supply the Grapes in place of the companion rod, which is cut out once the crop is secured. Thus we have double rods from the same stock, but one rod is older than the other, and bears while the other is preparing to bear (if I may put it so), and which will crop next year in the place of the one cut out. A house of robust young Hamburgs, with large bunches, were planted last May (mark the date), after the earliest crop of Grapes had been gleaned, and one season's growth was thus "caught up"—stealing a march on Time, as it were. Of course, young Vines planted in May have to be shaded and otherwise judiciously treated. These very early Hamburgs are in tiny borders, and have not more than a cubic yard of soil each. The earliest forced Vine pit was spoiled by fog this year, but the plants were immediately rooted up and others were substituted, and, though later than their predecessors would have been, they are now doing well.

The Vanilla (the only edible-fruited Orchid known) furnishes the superficial area of a back wall in this range, and at this period of the twelvemonths the shoots begin to bud and to flower. The crop, of course, is not useable till a year hence, for the pods are slow in ripening. Figs in pots are, and have been for some time, yielding ripe fruits, particularly St. John (Pingo de Mel). The Black Figs, such as Negro Largo, never show on the old wood, but splendid second crops are secured from off the young shoots. What's the reason?

Passing for a moment to the outer air, the early borders with Peas and Broad Beans are so well advanced that numerous flowers were already (April 24) developed on each. Every line of plants in every border—and there are many—were raised in pots under glass, thence planted in the borders there to fruit. Some of the Early Longpod Beans were sown last autumn, and resisted the trials of winter until a sharp January frost so nipped them that few recovered. Mr. Wythes considers the early Mazagan to be the hardiest of all, but the beans are very small. So persistent are the depredations of the wretched sparrows, that nearly every sort of crop at this time of year requires to be netted with fish-nets. Perhaps if the Rev. J. G. Wood, who has written so many "popular" natural history works, and who stigmatises the ignorance of gardeners and others in killing these "friends," had even one week's experience as chief of a large suburban garden, his tenets would materially alter. In Western Australia the Government are paying a sum for each sparrow that is destroyed, and when one innocent little friend was observed near Perth recently, the event was recorded in print.

The Gooseberries are grown as espaliers under close wire netting. On a low north wall, with the roots in a cool and well mulched border, there are a selection of Loganberries growing vigorously and flowering well. The Mahdi, Veitch's new introduction, and which much resembles the Loganberry, is here also, and quite as healthy. The fruits are tart, acidulous, and good for preserving. Referring to a number of Plums on an open west wall, it was pointed out that the Plum is a failure when grown as a cordon. It requires young wood for consistent bearing, and though the trees under note had originally been set in as cordons, two out of every three had been since lifted to allow of extension. The trees now are growing well, and are full of flower. Again, the dwarf horizontal cordons that are used in some parts of Syon as an edging to the borders are said not to be very profitable. This form requires much attention, and yields less than would be profitable to the market man. As an ornamental feature, however, and one which also yields some return, the dwarf horizontal cordon has its uses. Personally, I favour this form.

Then Strawberries are always a feature of interest here, because of the special care bestowed upon them, and the immense quantity required annually for all purposes. One large brake, representing, perhaps, the fifth part of an acre, is devoted to mother-plants—that is, robust young Strawberries whose sole function it is to furnish abundance of early runners of the best quality. These mother-plants are not allowed to produce fruits. The runners are secured early in June, and planted or potted, as the case may be, the same month. Ten thousand are required, of which six thousand are for forcing in pots. In the vineries, Cucumber pits, and elsewhere at this time of the year, there are great shelves crowded with plants bearing the odorous and richly coloured Strawberries. The plant is treated strictly as an annual, and is richly tended. Good and sunny borders or brakes are allotted to the young plants, and those planted last June and July will bear in a few weeks, whence they will be cleared off, and Cauliflowers, or some such other crop, substituted in their place. The mother-plants, or runner-producers, are allowed two years. They furnish the runners the first year, and are cropped the next. That perpetual fruiter, St. Joseph, appears happy on a north border.

Tomatoes in narrow borders, within sunk and heated pits, are already beginning to colour their earliest fruits. The plants for such early supply are in evidence by October, and grown "hard" during autumn; they are thence brought into the pits and planted in narrow borders. Cucumbers planted last December, in the same style of sunk lean-to pits, have been yielding weighty crops for some time, and are now exceedingly fruitful. So with Melons. The earliest plants have set fruits, the size of which at this time equals that of a tennis-ball. Rhubarb, Mushrooms, and Asparagus are supplied regularly in large quantities.

Bananas used to be more of a feature at Syon than they have been lately owing to a reduction in the number of plants grown. Good fruits can be purchased at a lower rate than home-grown supplies can be produced at, consequently these splendid tropical fruits, like the Pine-apple, now almost unknown in British gardens, must depart before the pressure of the less meritorious foreign crops. The delicious Mangosteen was first fruited in this country in Syon gardens, and here would be a new delicacy to attempt the precarious culture of, as at present its jelly-like fruit appears to be too tender to bear transportation from the tropics. And what of the Date Plum? It might be welcomed.

Turning to the floral features of general interest, it is the Odontoglossums that first awaken the sympathies of the memory. One long and shaded structure presents a bright white mass of crispums mostly, with a few Andersonianums, cirrhosums, and others among them. The show gives one much pleasure, and it seems almost vandalistic to cut every spike in this fine display for the decoration of a single dinner-table for a single evening. Yet such is the intention in this case. Mr. Wythes effectively employs the Japanese Fern-balls (*Davallia bullata*) that are a mass of tender greenfronds at this period, by placing them in open-mouthed glass bowls, and inserting between the woven rhizomes of the balls the graceful, arching spikes of the Odontoglossums. The excellence of the arrangement is apparent, and simplicity, coupled with the highest beauty, results. *Dendrobium densiflorum* is another species from which great results are obtained in Mr. Wythes' hands. A number of plants in 8in and 9in pots were carrying so many as nine long racemes. *Malmaison* Carnations, as special favourites of the Duchess, are grown in quantity, and the *Ixoras* are specimens of the very safest and highest cultural skill. The gardener who grows *Ixoras* to perfection understands the treatment of the bulk of stove plants. *Fuchsias*, as standards, and for the arches of a lengthened alcove on the south front of Syon House, are kept in stock, and yearly necessitate the raising and development of others like them. In all branches of house and flower garden decorative work (the latter referring to the planting of summer beds, and providing specimen plants for outdoor embellishment) the run upon plants is very great, and demands constant additions being made to the permanent stock.

The young gardeners' bothy is within a yard or two of the plant pits. Each man has a bedroom and bed to himself, and a general sitting-room is in conjunction. There is a suitable room for washing the hands and face apart from the other rooms, and the complete structure is heated with hot-water pipes. The roof of the bothy is low, but its appointments are excellent. A well-stocked library is at hand, too, and a full list of the books was printed in the *Journal of Horticulture* for May 16, 1901, pp. 422 and 423. I was somewhat disappointed to learn in a passing remark that little use is made of the library, and but little use is made even of the gardening papers. An instructor in French, drawing, and other subjects was at one time provided for the young gardeners, but the numbers who attended his course (and he was highly remunerated) did not justify its continuance. Within the last year Mr. Wythes has had a bathroom, lavatory, and washstands furnished for his assistants, and the hot water laid on is maintained from a separate boiler. Each man has a key for the bathroom. The whole arrangement is convenient, clean, and comfortable.—WANDERING WILLIE.



Forced Vegetables.

The reference to Ixoras at Syon recalls the pits near by the plant stoves, in which are crisp young Lettuces ready now for use, and between them are rows of French Beans, whose pods will be ready when the last of the Lettuces are being taken. Cauliflowers in frames to provide early heads are so advanced that the leaves will soon be "turning in" over the "flower." Cabbages for spring use have run much to flower this year, which is attributed to the sharp frost in January, after the mildness before that period.

Forced Peaches.

The earliest varieties are now ripening, and the trees must not be syringed, but the border should not be allowed to become dry. As the fruit of the other varieties will not be ripe for some time yet, the atmosphere must be kept genial by sprinkling the borders and paths as they become dry, syringing the trees in the morning, and again when closing the house. The night temperature may be kept at 65deg to 70deg, but 60deg to 65deg, though it will retard the ripening, will not tax the energies of the trees so much as the higher temperature. Leaving the ventilators slightly open constantly at the upper part of the house will be an advantage. In the daytime 70deg to 75deg, and 80deg to 85deg from sun heat will be suitable temperatures.—A.

Peach Trees Swelling their Fruit.

The fruits swell rapidly in the early stages, and up to the commencement of the stoning process. The swelling of the fruit is materially accelerated by the maintenance of a good root action, which is best effected by a judicious and gradual regulation of the growths by the process of disbudding and in thinning the fruits. These operations should be done carefully. The more vigorous the tree, the greater the danger of the fruit being cast in stoning, and the evil is often aggravated by previously disbudding severely, which favours strong growth more than steady progress. Supply water thoroughly to inside borders when necessary, lay-in the shoots so as to induce them to grow in the proper direction, allowing room in the ligatures for the swelling of the growths. After the fruit has stoned it takes the last swelling, when the shoots should be well tied down, but a moderate extension of the growths will materially assist the fruit in swelling. Any leaves that shade the fruit should be drawn aside or shortened, and fruits on the under side or back of the trellis be raised on pieces of laths placed across the wires.—G.

The Gold-laced Polyanthus.

Time was when these exceedingly handsome spring flowers, peers among the Primulas, were more revered than would appear to be so in these days of ominous signs. We love the old flowers, and would that growers everywhere might stand by the gold-laced favourites, of which a specimen plant is figured on page 387 of this week's Journal. Even at the recent show of the National Primula and Auricula Society held in the Drill Hall, only three plants of this aristocratical section could be seen, and miserable, puny pieces they were, stuck in pots that seemed uncomfortably big for them. What are prettier than borders or lines, or beds of mixed varieties among the Apple trees, where the bees, the soft winds, and the sunshine steal? None of the spring flowers are nicer. We trust that if the exhibitors at least have lost their regard for the old gold-laced Polyanthus, the lovers of garden flowers (for their memories and associations, and for themselves) will sow seeds soon, and will grow liberally, these beautiful harbingers. The characteristics of a good Polyanthus are that each flower should have a yellow centre or eye; this yellow centre should be of the same width as the body colour, which should either be a rich dark crimson or a bright red. Round this body colour the margin, or lacing, should appear of a uniform width surrounding each petal, and continuing down the centre of each to the yellow eye. The colour of this lacing should be uniform, whether it is sulphur, lemon yellow, or clear yellow. Seeds may be sown now in warm and well prepared borders.

Peach Curl

Is caused by a fungus, *Exoascus deformans*, a fungus which is much more serious if rains or cold weather prevail at the time the trees are leafing out. The efficiency of sprays in checking the curl is due to the fact that the spread of this fungus is due to the spores, and not to a perennial mycelium, as was at first supposed.

A Magnificent Magnolia.

In a sheltered part of the grounds at Syon House, Brentford, there has lately been in flower a magnificent Magnolia tree, of the species *stellata* (syn. *Halleana*). Standing fully 20ft high, it is also dense and splendidly furnished. Hundreds, perhaps thousands, of the beautiful pearly white and star-shaped blooms have been developed during the past few weeks, but the withered remains are all that now remain.

Fritillaria askabadensis.

On page 293, April 3, we figured this fine new species, about which Miss Willmott kindly sends us the following particulars: "*Fritillaria askabadensis* is a new species belonging to the *Petalium* group. It was found by Messrs. Van Tubergen's collector near the town of Askhabad, growing in calcareous soil at an elevation of 1,000 metres. It was exhibited by me at the Drill Hall on March 11 and again on March 25, when it was given an Award of Merit.—E. WILLMOTT, Warley."

Oranges in Variety.

Medical men say that an acid Orange eaten daily before breakfast from December to April tends to produce a condition of almost perfect health. It is well known that singers consume large quantities of Oranges, the juice of this fruit being considered especially good for the voice. Fresh fruits are always wholesome and appetising as a food or in beverages, and fruit in some form should be eaten daily for the health's sake. Oranges may be served in many dainty ways, and one may rejoice over the fact that the supply is plentiful and price reasonable.

Daffodils at Rood Ashton.

For some time past the shrubbery borders here have been extremely gay with a wealth of Daffodil blossoms, mostly of the double *Tellamonius Plenus*. These have been planted some seven or eight years, and so quickly do they increase that at the present time some two dozen or more flowers can be counted to a clump which had their origin so short a time since in a single bulb. The greater proportion of the flowers are of unusual size and depth of colour, points that add to their splendour collectively as well as individually. They are present in thousands, and are freely drawn upon for decorative purposes in the house and church—uses to which they are so well adapted. These, together with *Polyanthuses*, *Tulips*, and *Aubrietias*, combine to make the grounds diversified and spring-like, and, needless to say, find many admirers.—W.

A Dozen Choice Caladiums.

Words fail one when attempts are made to describe the exquisite tenderness and subtlety of colouring among Caladiums. They are precious plants, and will always be sought for and largely grown. The following dozen varieties are the cream of Messrs. Laing and Sons' large and representative collection at Forest Hill. The descriptions are theirs also:—*Alexander III.*, large bright red, with green margin. *Barao de Mamore*, delicate white ground, beautifully reticulated with green, the centre and ribs marked with dark velvety crimson, narrow green border; A.M. *Duke of York*, dark crimson, with bright rose-carmine leaves and darker midrib and veins; the colour is most effective; A.M. *Excellent*, green ground, spotted red and white, fine; F.C.C. *Her Majesty*, the broad margin and the principal veins with a band on each side of them bright apple-green, the interspaces silvery white, with some carmine stains. *John Laing*, extremely brilliant rosy red, bordered creamy white; most effective; F.C.C. *Flammant Rose*, brilliant rose surface and veins, margined bright green, large leaf. *Gaspard Crayer*, red centre, with a broad green margin, fine; F.C.C. *Poupre Royale* (Royal Purple), deep reddish purple, bordered by a golden green margin; very fine. *Mrs. Luther*, bright rose-carmine, almost self-coloured, very dwarf and dense. *Rose Laing*, a most charming and attractive variety, pure white ground, veins and ribs a delicate blush; very distinct; A.M. *Souv. de la Baronne Albert de Rothschild*, dwarf, white, flushed with transparent rose in centre.



A specimen Gold-laced Polyanthus. Its attributes are noticed on page 386.



Chrysanthemum Rust.

Seeing in your valuable Journal of April 3, page 297, a few remarks on Chrysanthemum rust, I beg to contribute what I think would bear up "Modesto's" statements as regards Chrysanthemums in the country being more exposed to rust than those near large towns. Two years ago I found rust on Violas [a different species of rust] and had to destroy them on that account; and this season I find in a neighbouring wood, several acres in extent, Anemone nemorosa (which abound in great numbers) fairly smothered with this, our sworn enemy.—F. J. CHAMBERS. [Evidently there is confusion in regard to the host-plants that the Chrysanthemum rust will subsist upon. It is generally understood that none other than true composite plants are ever affected by Puccinia hieraci, Mart. (P. chrysanthemi, of others), and of course Anemone nemorosa is of an entirely different natural order, that is, the Ranunculaceæ. According to J. C. Arthur (U.S.A. Exp. Stn., Indiana Bull. 85; 10, 1900) the rust is peculiar to the Chrysanthemum alone.—Ed.]

Notes on Violets.

The notes of "J. S. U." have been timely and valuable, but I make a few additional suggestions. Air is the one thing especially required in the frames during the winter, to promote the health of the plants, prevent damping, and keep off the disease. When it is undesirable to remove the lights entirely, because of frost or snow or heavy rain, the lights should be propped up at both ends, to allow a free passage of air. Constantly remove all dead leaves, and even those, however large, which begin to turn a little yellow, and especially all which show the round grey spot of the disease. I see no advantage in retaining a runner or two on each plant during the summer. These would be too young as plants for the following winter, and too old for the next one, and each crown would be the weaker for it. The single Violets push their great runners for some distance under the soil, but if carefully lifted they will break off all right at the point of issue. La France I have discarded for reasons stated in the Journal. I agree with "J. S. U." that the colour of Mrs. J. J. Astor does not recommend it, except, of course, to those who care more for variety than for beauty. Sulphurea seems a poor thing indeed. Comte de Brazza (syn. Swanley White) is not a good winter bloomer, but has plenty of fine flowers in the spring. I do not find white Violets very popular or useful. A plant of Comte de Brazza has lately with me produced some pale blue flowers, the colour of the old Neapolitan. If the variety (I believe Swanley White and Comte de Brazza were sent out the same season, and are absolutely identical) was a sport from the Neapolitan, this is probably only a case of reversion; but, though an Oxford man, I am bound to say that a pale blue double Violet as good as Marie Louise would be very valuable, and I am inclined to think even more beautiful.—W. R. RAILLEM.

In response to the Editorial footnote on page 362, I may perhaps be allowed to offer a few remarks under this heading. In this neighbourhood every bank, copse, and wood has been carpeted during the last week or ten days with the flowers of the wild Violet. Many dozens of bunches are annually gathered by the villagers and visitors to the district. The soil, of a strong clayey nature, evidently suits them, as they thrive and produce their odorous blossoms in the greatest profusion. The cultivated varieties such as have so far been tried here, and which include Marie Louise, Comte de Brazza, Princess of Wales, and The Czar, give little trouble beyond ordinary culture. Our method of procedure is pretty much on the same lines as those laid down by "J. S. U." The crowns are divided in April, and the divisions are planted out on a well manured plot of ground, after attention consisting of hoeing, pinching the runners, and an occasional dusting of soot. This last greatly facilitates clean, healthy growth. In September or early in October the doubles and Princess of Wales are planted in cold frames in much the same way as described by "J. S. U.," and by protecting during severe weather we are enabled to gather Violets at almost any time during the winter.

I have never found it necessary to plant the divided portions in a frame previous to placing them in summer quarters, and if the planting time is well chosen there ought to be scarcely any failures. These may occur if the work is done early in April, when the cold dry winds of March prolong their visitations, but

carried out carefully during warm moist weather, there ought not to be more than five per cent. which fail to grow.

Coddling in any way is to be deprecated. The Violet does not love anything approaching nursing. If any grower wishes to satisfy himself as to this, he need only pot up a few plants in autumn and place them in a moderately warm house. Rich loose soil in the frames they occupy must be condemned as an incentive to luxuriance of leafage and a corresponding paucity of flowers, with a tendency to mildew, owing to the difficulty of keeping such heavy foliage dry in a cold frame. Treated in a rational manner, there is no reason why Violets should not be easily grown in gardens. There may be localities where they fail at the same time as those growing in a wild state are a success; but I quite fail to see the connection in such cases between cause and effect.—J. W., Hopton Hall Gardens.

Plans for a Bothy.

In accordance with the intimation made on page 363 last week, we herewith furnish suggestions for the guidance of those who may send in a plan-drawing of a bothy with suitable accommodation for six men, and for which "Well-Wisher" offers a first prize of three guineas and the Editor a second prize of one guinea. When the plans may be sent in and who will judge them has yet to be decided. Meanwhile our readers are cordially invited to co-operate, and make the "Journal Bothy Plan" a model one for every garden. The rules of the competition will be as follows: The plans, drawn to scale, must not exceed 7in broad by 7in in length, and must be clearly defined on stout paper. The sender's name and full address should be enclosed when sending the plan, and the sender will alone be held responsible for it. Coloured drawings are not eligible. These are the chief points to be observed, and in the way of suggestion we would stipulate for a two-storeyed building, to contain at least four bedrooms, or, better still, one for each man; one large sitting-room, one mess-room, scullery, and bath-room. The entire front length of the building may be 40ft and the same in breadth. The cost ought not to exceed £200 to £220. We offer these merely as suggestions, however, and competitors are absolutely free to use their own discretion. Hereunder we append a letter on the subject from an esteemed correspondent.

After reading the paragraph under heading "The Bothy: A Suggestion," I fail to grasp an adequate meaning for such a generous offer. Is the idea to promote architectural drawing amongst gardeners? For it most certainly is this class of men who would understand the requirements of a suitable bothy. A bothy to accommodate six men would require (1) at least four bedrooms. These should be 15ft by 10ft, and, if possible, upstairs, the stairs to be covered with lead. (The idea for four bedrooms is, in case of sickness, one room can be set apart for the sick man. The convenience is obvious.) On the ground floor a (2) large living-room, 20ft by 15ft, would be ample, well ventilated, and heated by hot-water pipes from boilers. A (3) reading (study) room of like dimensions, and heated the same way. (A small library would be a very useful piece of furniture in this room.) (4) A scullery or back room, with a good cooking range; this room 15ft square. (5) Lavatory and bath-room, hot and cold water laid on from boilers. Cupboards are useful in bothies; so would a small provision safe be handy. Here are the requirements, but at the present time of the year it is not everybody who has the time to sit at a drawing-board for long, as overtime is plentiful just now, and the theory of gardening principles has to stand by for practical things.—H. R., Kent.

"The Garden of England."

The country all round is now presented at its best, after a long interval. Kent, as a county, at this time of the year tries hard to keep its fair name as the "Garden of England," for blossom, birds, and green grass make it an earthly Paradise. Other counties may possess acres of these and Damson trees—but so does Kent—with whole sheets of bloom glistening in the sunshine of April. Astounding! like a fairy tale or a dream to a town dweller. But no other county can boast of acres of Cherry trees, huge giants of many years, veterans of many gales, and the pride of more than one generation. Why! to these "trees of Kent" the Plums and Damsons are mere pigmies, and they, too, are a wealth of blossom of the purest white. Kent gradually may be losing its reputation as the largest producer of Hops, but it will surely never lose its Cherry producing reputation. For where Hops were growing once Cherry trees are now, and I have noticed many instances where Cherries and Hops are growing side by side. In a few years the Cherry trees, being established, take all the ground; the Hops, like the proverbial chaff, are burned.

Now is the time of year to visit the Cherry districts in all their glory. And where are there not Cherries? Nearly every farmer and fruit grower has his Cherry orchard, and a failure of that crop means much to these men. That they do sometimes

fail is well known, and along now is the most critical time of the whole season. The recent warm weather and light April showers are hastening on the flowers, though the many different species and varieties of fruit trees prolong a naturally short and very beautiful season. Rain is wanted badly; the few light showers are by no means sufficient, and the springs are becoming low. The hedgerows are presenting a beautiful appearance, with an abundance of Blackthorn blossom. Everywhere Nature has opened her annual display of the flowers of spring. By a curious coincidence, at the time of writing, April 23, Maidstone, the capital, is holding in the Corn Exchange a very unique floral exhibition. Unlike most flower shows, the admission is nil; everybody is cordially welcomed to see flowers immortelle—no charge for admission and no collection. All the flowers are made by hand, and are thus artificial, being of silk or muslin. Chrysanthemums and Roses are very real looking, likewise Lilies of Valley; but Violets and Geraniums do not adopt a natural appearance. The stalls are managed chiefly by young ladies, and every endeavour is used to sell the flowers. The whole of the money taken is used for training cripple girls, under the auspices of the Watercress and Flower Girls' Christian Mission, cripples' industrial training branch. Altogether it was an exhibition of much interest and well worth a visit, teaching much to those who would learn something of the inner nature and life of such a charitable work.—H. R., Kent.

Societies.

Royal Horticultural—Scientific Committee, April 22nd.

Present: Dr. M. C. Cooke (in the chair); Messrs. Bowles, Worsdell, Saunders, Nicholson, Sutton, and Worsley. Dr. Rendle, Prof. Boulger, Rev. W. Wilks, and Rev. G. Henslow, hon. sec.

Report on plants sent to last meeting.—Dr. M. C. Cooke writes as follows:—“*Daffodil leaves.*—1 failed to find any distinct evidence of bacteria in the etiolated spots, but still think that the theory of bacteriosis is probable. *Stem tubers of Orchids.*—Externally they exhibited rounded blackish spots, beneath which the cellular tissue was blackened deeply into the tuber. It had all the appearance of fungoid disease. I examined it at once, but no trace of mycelium or spore could be found. Kept in a damp atmosphere for fourteen days, it was then examined again, with the like result. I cannot account for the spots, but can find not the slightest evidence that they are of fungoid origin. *Tulip bulbs.*—The outer scales were decayed, inner ones only being sound. The decayed portion gave no indication of fungus growth, and no trace of mycelium, but contained numbers of nematode worms. There were also other evidences of insect depredations. *Japanese Maple.*—The peculiar, globose, pale little bodies which were clustered in the axils of branches, proved to be agglomerations of minute fragments of woody tissue, apparently the exuviae of some grub. I did not remove them to ascertain if there were any excavations beneath, but referred them back for entomologists to examine. *Orchid leaves.*—There was an amorphous, brown, decayed matter in the cells, but no mycelium or fungous spores. I attribute the spots to some external cause. *Linum trigynum.*—There was nothing on the surface of the leaf, and no mycelium in the interior, not the slightest trace of fungi. All I find in the white spots is that the cells are deficient in chlorophyll, just as in the Daffodil. There are just the abnormal cells, but no chlorophyll in them. I have often seen the same thing on leaves of the Honeysuckle, but could never comprehend it. There is doubtless some physiological cause for the manifestation of the disease, apparently a weakness in the plant, requiring some stimulus. Is it more heat, or more nitrogen in the soil? The fact of not flowering seems to indicate weakness. I can suggest nothing, only it is certain that there is no parasite at present.”

“*Silver-leaf.*”—Mr. Worsley showed stems of Peaches with blackened wood, as seen in a cross-section, indicating some condition which apparently injures the whole tree, producing the “silver-leaf” affection; it is common also on Plum trees and Portugal Laurel, but it has never been accounted for.

Tulipa sylvestris.—He also showed this plant, regarded as a true native by Hooker in S.W. Yorks, Norfolk, Suffolk, and Somerset, being naturalised elsewhere. Mr. Henslow observed that it grows abundantly in two valleys in Malta. Its distribution is from Holland southwards, so that in Somersetshire it may be a member of the British Mediterranean group. Mr. Worsley also showed specimens of *Bidens delphinifolia* with small yellow flowers, a Mexican annual, and also *Marica coerulea* from tropical E. America. It has a bell-shaped flower with no tube, and belongs to Irideae. One species occurs in W. tropical Africa, the other eight in E. America, indicating a probable former connection between the two continents.

Cephalotaxus, fruiting.—Mr. Wilks showed a bough, not usually seen in fruit in this country.

Pæony with the goat moth.—Mr. Holmes showed specimens of the stems thus injured; a plant not usually attacked by the eaterpillar of this moth.

Root nodules on Robinia.—Mr. Rogers, Hexworthy, Launceston, Cornwall, sent some roots of the garden Acacia, showing the microbe-bearing tubercles, which were terminal and globular, about 1-8th of an inch in diameter. They are also remarkably large on the roots of Laburnum, forming coral-like masses sometimes as large as a pigeon's egg.

Peach blossoms.—Mr. G. A. Bunyard sent some blossoms of small-flowered varieties of Peach and Nectarine, illustrating a considerable difference in the degrees of protogyny. In some the pistil protruded to a great distance, the chance of self-fertilisation being very slight. In others it was much shorter. In all cases the stamens were inarching so that self-fertilisation was easily secured. In a double-flowered kind there was a similar difference, so that they might be almost called “short-styled” and “long-styled,” but always protogynous. Mr. Bunyard observes that in the large-flowered varieties the style is too long for the bud, so that it is bent round. This is a common result in many self-fertilising buds, as of *Salvia Verbenaca*, *Lamium amplexicaule*, &c., so that it may possibly be so in this case; but it appears that the small-flowered varieties are the most prolific, hence insect agency perhaps comes into play. Neither the bitter nor sweet Almond have a protruding style. Our wild species of *Prunus*, as the Sloe, and Bird Cherry are all protogynous, the cause probably being the colder temperature of early spring. He also sent flowers of the Tibbett's Pearmain Apple, having unusually long styles. It is protogynous, and a scanty bearer.

Turnip varieties.—The following interesting communication was received from Mr. Gould, of Sleaford:—“We have occasionally planted a single extra good stock root to produce seed, and almost in every case the produce is mixed. When there are fifteen or twenty of the same type put in together the produce is always satisfactory. For instance, one perfect Enfield Market Cabbage as a result gave us almost every variety of Borecole, garden and cattle Cabbage, Savoy, and Sprouts. One Altrincham Carrot gave a number of white roots. One root of Mangold, in four instances in four different seasons, produced a mixed crop of bulbs. And we have a very curious instance this year: In a 20-acre field of Giant Bronzetop Swede we found one root of Red Tankard Turnip, the finest we ever saw. It was planted in a private garden miles from any Turnip or Swede seed, was covered with muslin to prevent any chance of inoculation, and the produce is wonderful. There are a few Short Red Tankard Turnip, Greentop and Greystone Turnip, Purpletop and Greentop Swedes, as well as some intermediate forms. Can you suggest any cause for this state of things? In this case the Red Tankard must have been a sport from the Swedes; but in those we first indicate, the Cabbage and the roots were from old stocks that had been well selected for years. We enclose particulars of the Red Tankard produce; the others we did not note at the time.—Report of the produce of one handsome Red Tankard Turnip, picked up in a 20-acre field of Giant Bronzetop Swede. Seeded in a private garden far away from any other Turnip or Swede seed. Covered with muslin to prevent inoculation. 49 Purpletop Swede, 7 Bronzetop Swede, 150 Bronze White Turnips, 10 Greentop ditto, 1 Whitetop ditto, 6 Reddishditto ditto, 8 Short Red Tankard, and a score or two of small nondescript.” The opinion of the Committee was that in a large mass of any one kind of plant the general intercrossing which takes place tends to equalise the produce to a general average, the would-be varieties being “swamped;” but when a single plant is isolated it can give rise to variations intact.

Leucojum vernum forming bulbs.—Mr. Bradley sent illustrations of this plant forming fresh bulbs above the one planted; he writes as follows: “The border in which these bulbs grew had from time to time been topped up by the addition of soil, the effect being that the base of the bulbs, which had originally been planted much shallower, had gradually been covered with earth to a depth of 6 or 8 inches. *Nerine sarniensis* showed a similar production of new bulbs. They had been planted about five years ago. When planting a trench was thrown out with a depth of some 18 inches, and about 3 inches of manure put in, then the trench was filled up with soil and the bulbs planted at a depth of about 3 inches to the base below the surface of the soil. The trench was subsequently refilled as the soil sank, so that the bulbs were ultimately about 8 inches below the surface. Under these conditions they developed the upper bulbs.” The interpretation appears to be that bulbs normally require to be at certain depths, some deeper than others. If they be too near the surface they form contractile roots which pull them down, but in the present case the bulb being too deep, the difficulty is surmounted by the formation of another at the proper depth (see Martin's “Teratology,” p. 84).

Royal Meteorological.

At the meeting of this Society, held on Wednesday evening, the 16th of April, at the Institution of Civil Engineers, Mr. W. H. Dines, the President, in the chair, Captain D. Wilson-Barker delivered a lecture on “Clouds.” After some remarks on the composition and the height of the atmosphere, the lecturer said that until recent years comparatively little scientific attention had been paid to the subject of clouds. This he largely attributed to the lack of a simple practical classification. The French naturalist Lamarck was probably the first to formulate one, but Luke Howard, a London merchant, about 1802, introduced the first practical classification, which is still in use among

many observers. Clouds are formed by one of two causes, viz. (1) the mixing of two masses of moist air of unequal temperatures; or (2) through changes occurring in the atmosphere, where expansion and consequent loss of heat take place, causing condensation of moisture. Captain Wilson-Barker said that a simple primary classification is best arrived at by a two-fold division of cloud types, viz. (1) "Stratus," or sheet clouds, and (2) "Cumulus," or heap clouds. The former may be roughly considered the cloud of a settled, and the latter of an unsettled state of the atmosphere. He showed by means of lantern slides a number of cloud pictures illustrating certain varieties of both main types. Under "Stratus," or sheet cloud, the lecturer included fog stratus, high stratus, cirrocumulus, cirrus, nimbus, and scud; and under "Cumulus," or heap clouds, he included the ordinary cumulus, the shower cumulus, the squall cumulus, and roll cumulus. In conclusion, Captain Wilson-Barker referred to various optical phenomena associated with clouds, such as coronæ, halos, sun-pillars, rainbows, and also the colour of the sky.

Royal Horticultural of Ireland.

The annual spring function of this society was held recently in the old quarters, the Royal University Buildings, Earlsfort Terrace. In dealing with the varied exhibits, it is with feelings of regret that one has to confess they have tended to degenerate. The classes were considerably less, whilst the quality of the varied exhibits, excluding those which were awarded premier honours, was far from a high standard of cultural skill. From the deficiency of the competitive classes, the nurserymen made up a gallant display, and amongst the many Messrs. Alexander Dicksons, of Dublin and Newtownards, had a superb display of Roses and floral designs, each very fine. Their stands of bulbous flowers, notably forced Tulips, were good. We noticed the following as valuable sorts:—Prima Donna, scarlet, flushed white; Yellow Prince, a softer yellow than California; and Queen of the Netherlands. Daffodils were amply staged; a gold medal was recommended.

Messrs. Hogg and Robertson, Mary Street, Dublin, had a choicely arranged group of their Tulips backed with Daffodils. Though the time was somewhat too early to see them in perfection, yet they were a well coloured collection, including Brunhilde, Maes van Berghen, Leonardo da Vinci, Karl de Moor (a deep golden yellow, feathered and splashed crimson); California, also a white variety. Roi Pepin, a good crimson, marked with white; and Joost Van Vondel, a white that stands alone, a massive flower, whose long segments create a favourable impression.

Miss Curry, of Lismore, had an extensive array of Narcissus, comprising the most up-to-date varieties in selfs, bicolors, and red-cupped types. We noted that Dr. Fell was finely grown; and amongst the others were King Alfred, Maggie May, Weardale Perfection, Seagull, Golden Bell, Cassandra, and Almira. White Queen, practically a new variety, caused a great deal of attention. It is not unlike Maggie May in build, but with a creamy white cup instead of a faint yellow; likewise the perianth segments of same hue, a chaste looking flower, complete absence of coarseness. The award of a Gold Medal was thoroughly earned.

Messrs. Ramsay and Sons, Ballsbridge, had a circular stand of flowering and foliage plants; interspersed was forced Hawthorn, and many were agreeably surprised, but those who try their prentice hands must remember it will not stand hard forcing but very gradual, and Messrs. Ramsays are to be congratulated with showing what can be done for beautifying by the culture of the common Thorn. Their group of floral designs was also good.

In the competitive classes for the nine pot Roses, Mr. Philip Geoghegan, gardener to F. Millar, Esq., Baggot Rath House, Sandymount, was an unquestioned first with well flowered plants, and thoroughly deserved the Cup. For twenty-four do., Mr. J. Byrne, gardener to G. Drimmie, Esq., Belview, Booterstown, was first with some monster blooms (La France in particular), although the stand was well maintained. For the Maréchal Niel Roses, Mr. Harvey, gardener to E. D'Olier, Esq., Knocklinn, Bray, was first with blooms of ample size but detracted from by want of artistic staging. For the dozen single Hyacinths Mr. P. Geoghegan again took the premier honours, a position he has held in this class for several years. The other classes were weak, excepting Mr. Davis's (gardener to S. Goodbody, Esq., Obelisk Park, Blackrock), who staged some fine plants, and likewise held premier place for the Spiræas. Mr. Colohan was first with giant Deutzias; his six pots of Ferns were also a noble lot. The pan of Adiantum Williamsi was choicely grown, and gained the card.

In the great class for Daffodils, Lady Doyne was first with fine flowers choicely arranged in tiers, and resulted in capturing premier place. Second place was closely contested by Mr. Rigg (gardener to Lord Cloncurry, Lyons, Hazlebach), but poor arrangement consequently placed him back. He was, however, awarded premier place for his densely flowered pans of Lily of the Valley. In the Tulip class Mr. Cavanagh, of Dalkey, was first, and likewise took premier place for Cinerarias, although the

exhibits were backward. Fruit and vegetables were small, and competition was weak.

The Botanic Gardens, Glasnevin, had a nice bank of stove plants, and amongst the many good things I noticed *Cotoneasters*, *Boronias*, in var.; *Gasteria lingua*, fine plants of *Cymbidium eburneum*, *Angræum sesquipedale*, *Schizanthus wisetonensis*, *Acacias*, *Bromeliads* in var., *Diosma ericoides* (with its pretty white stars of flower), and other plants. A medal was recommended.

Lord Ardilaun, through his gardener, Mr. Campbell, erected one of the most interesting exhibits in the hall—a stand of over eighty-seven sorts of hardy herbaceous plants, but it was cramped for want of space. Amongst the many subjects were *Daphnes*, *Magnolias*, and *Anemones*, all very good; also, yellow *Epimedium pinnatum*, *Grevilleas*, *Iris stylosa*, *Primulas cortusoides* and *rosea*, *Orobis vernus*, *Erica carnea*, *Grevillea rosmarinæfolius*; a fine Pansy Madame Perret, *Omphalodes verna*, *Sanguinea canadensis*, and some choice Primroses. In the evening a select programme of music was played.—A. O'N.

East Anglian Daffodil Show, April 16th.

Never has the Public Hall at Ipswich presented a more beautiful appearance than on Wednesday, the 16th, when, in the presence of a large audience, the Mayoress of Ipswich opened the second annual spring floral exhibition. The magnificent display provided must have been due in a large measure to the indefatigable efforts of the hon. secretaries, Mr. A. E. Stubbs, of Ipswich, and Mr. John Andrews, of Woodbridge, in obtaining so many non-competitive exhibits, for it must be admitted that with the exception of the decorative classes, competition was by no means keen, though, as the society is but yet in its infancy this will doubtless be improved upon in succeeding years. Nine classes were allotted to cut Daffodils, the principal class being for twelve bunches of the trumpet section (*magni-coronati*), Mr. J. W. Cross, Wisbech, taking first prize, having *Glory of Leiden*, M. J. Berkeley, Mdme. Plomp, and *Victoria* in good condition. The other classes were but sparingly filled, Mr. John Andrews and Mr. T. G. Heatley, both of Woodbridge, being the leading prizewinners.

For the best collection of Daffodils in pots, not less than eight distinct varieties, Mr. L. Brown, Brentwood, was the only exhibitor, showing good examples of Mrs. T. W. Ware, Emperor, Empress, Frank Miles, and other popular sorts. Various classes for Oriental basins or vases of Daffodils made a good display. Mr. A. Bennett, Westerfield Road Nursery, Ipswich, secured a special prize (a case of champagne) for a group of hardy flowering shrubs in pots, well flowered examples of *Deutzia Lemoinei* being a feature of the group.

A silver medal was offered for the best three pots of Strawberries with ripe fruit, this being secured by Mr. A. Creek, gardener to Sir Cecil Donville, The Chantry, Ipswich, with good examples of Royal Sovereign. An interesting class was that provided for market salesmen, viz., a box or basket of cut blooms to contain not less than twenty-four or more than thirty-six bunches, to arrive the morning of exhibition. A good competition resulted, most of the flowers arriving in beautifully fresh condition. Mr. White, Spalding, was first, and Mr. W. Baylor Hartland, Ard Cairn, Cork, second.

Floral decorations were quite a feature of the show; the two classes for table decorations, one for a table of Daffodils, and the other for a table of spring flowers, bringing together fifteen entries. The prizes all went to lady amateurs of Ipswich and Woodbridge. Baskets of Daffodils made a charming picture.

As previously mentioned, the non-competitive exhibits were the backbone of the show, foremost amongst them being a splendid group, about 30ft in length, of flowering shrubs in pots by Messrs. W. Cutbush and Son, Highgate. Standards of *Prunus triloba* and *Viburnum Opulus* rose from a groundwork of Palms and Azaleas, while in the foreground were disposed bold groups of *Lilac Charles X.*, *Spiræa confusa*, *Ericas candidissima* and *persoluta alba*, and *Staphylea colchica*, &c.

Messrs. Perkins and Sons, Coventry, delighted the visitors with a display of floral designs in their usual masterly style.

Messrs. Barr and Sons, King Street, Covent Garden, &c., set up a lovely bank of Daffodils, including some of their choicest varieties, Lord Roberts, Peter Barr, Big Ben, Weardale Perfection, and Lucifer being particularly handsome.

Messrs. R. H. Bath, Limited, The Floral Farms, Wisbech, filled about 20ft run of staging with Daffodils, arranged in bunches with their own foliage. A very pretty display of popular varieties. Mr. J. W. Cross, Wisbech, had a similar exhibit. From Colchester came an interesting exhibit of hardy bulbous plants. Pot Daffodils formed a background, while in front were pans of *Erythroniums Hendersoni*, *Watsoni*, and *revolutum*, *Muscari conicum*, *Anemone Pulsatilla*, the scarce *Iris orchoides* and its beautiful pale blue form *cœrulea*, *Iris stylosa speciosa*, *Fritillarias*, Tulips, and many other gems among bulbous plants.

Some beautiful boxes of cut Roses were shown by Messrs. Frank Cant and Co., Braiswick Nursery, Colchester, including two dozen lovely Niphetos.



Specimen Grey-edged Auricula, referred to on page 378.

Mr. R. C. Notcutt, of Ipswich and Woodbridge, well sustained his local reputation with a small but neat group of flowering shrubs, a stand of Tulips in pots, and a collection of cut Daffodils and Hyacinths arranged in bunches with Mahonia foliage.

Other exhibits of Daffodils came from Messrs. Williams and Son, Upper Holloway; Wade, of Riverside Nursery, Colchester; and Hogg and Robertson, Dublin. An exhibit which might well have been dispensed with was a stand of furniture, which occupied a lot of much-needed space in a densely-crowded hall. In the vestibule there was an interesting display of bulbs grown by children attending the Middle schools of the town. In the autumn the management distributed bulbs to the pupils, and intimated that prizes would be offered for the best examples at the spring show. Not more than a third of the bulbs were returned, owing, it is said, to the difficulty experienced by the young gardeners in getting them in flower at the right date.—E. C.

Royal Caledonian and Scottish Horticultural.

For many years the Royal Caledonian Horticultural Society held a large summer show in the Waverley Market in July, but since 1889 that has been discontinued. The Scottish Horticultural Association has for a few years held a small summer exhibition, and in 1900 the Royal Caledonian Horticultural Society also held one. In this the Coronation Year of His Majesty King Edward the Seventh, the two councils have cordially agreed to hold a summer show in the Music Hall, George Street, Edinburgh, on Wednesday, July 16, 1902. Exhibits of Roses, Carnations, Sweet Peas, Herbaceous Flowers, Irises, and other midsummer flowers, Strawberries, and other fruits, also plants and vegetables that may be interesting to horticulturists, are specially invited. Medals and other awards will be given to meritorious exhibits. If desired, the councils will make arrangements for unpacking and staging any exhibits. Every care will be taken, and exhibits will be returned, if desired. The societies will take precautions to safeguard such exhibits, but will not be responsible for any loss or damage. Exhibits must be staged before 11 a.m. on the day of the show, and intimation of the proposed exhibits and the probable space to be occupied, with a description of the character of the exhibit, should be made to either of the joint secretaries not later than July 12. In the case of exhibits sent by rail or post, they should be sent to the Music Hall, and a separate advice or postcard should be sent to either secretary. Unless this be done, the risk of parcels going astray will be greatly increased.—In name of the respective councils, P. Murray Thomson, 5, York Place, Edinburgh, Secretary, Royal Caledonian Horticultural Society; Peter Loney, 6, Carlton Street, Edinburgh, Secretary, Scottish Horticultural Association.

Royal Botanic, April 23rd.

The annual spring flower show of the Royal Botanic Society was recorded as a successful event on Wednesday, April 23. The corridor in the society's gardens and a large part of the outer parts of the heated conservatory were well filled with groups from trade growers and from one or two private gardens. Though the schedule was not composed of competitive classes, as ordinarily understood, there were medals offered for particular exhibits, and the schedule stated that in cases of medals awarded to nurserymen the Gold Medal would be accompanied by a sum of £3, a Silver Medal by £2, and a Bronze Medal by £1; where awarded to a gardener the same medals would entitle the winners to £2, £1, and 10s. Most of the exhibits were noticed by us on the previous day at the Drill Hall, and it is unnecessary to refer to them in detail.

Mr. Amos Perry, of Winchmore Hill, had a capital assortment of hardy flowers, including a selection of dwarf Irises, varieties of *P. pumila*. Roses and forced shrubs were sent by Messrs. Wm. Paul and Son, Waltham Cross, while Barr and Sons (Silver Medal) and Hogg and Robertson (Bronze Medal) staged collections of Daffodils, Narcissi, and Tulips. Messrs. Hugh Low and Co. (Silver Medal) had some good *Malmaison* Carnations, and *Schizanthus wisetonensis*. Mr. Williams, of Oxford Road, Ealing, displayed beautiful table decorations. Messrs. R. and G. Cuthbert had forced shrubs, and obtained a Gold Medal. Messrs. Williams and Son, of Upper Holloway, were the recipients of a Silver Medal for a group of stove and forced plants; while Laing and Sons, of Forest Hill, had a like award for a similar collection. Messrs. R. H. Bath, Limited, obtained a Bronze Medal for Narcissi. There were not many exhibitors from private gardens, but Miss Adamson, South Villa, Regent's Park (gardener, Mr. Geo. Kelf), obtained a Bronze Medal for a group of Rhododendrons, a Gold Medal for a group of miscellaneous stove and greenhouse plants, and a Silver Medal for a collection of Hyacinths, Tulips, and Narcissus in pots. Campbell Newington, Esq., The Holme, Regent's Park (gardener, Mr. Thos. Abbott), won a Silver Medal for a group of plants of Rhododendron indicum in pots; Ludwig Monds, Esq., Avenue Road, St. John's Wood (gardener, Mr. J. C. Clarke), a Bronze

Medal for Orchids; and Sir Francis T. Barry, Bart., St. Leonard's Hill, Windsor (gardener, Mr. R. Brown), a Bronze Medal for Camellias, arranged in fifty glasses, and cut from plants growing in the open.

Truro Daffodil Show, April 15th.

That the Cornish folks can successfully instigate an exhibition of Narcissi, Daffodils, and spring flowers was again exemplified by the show held at Truro on the 15th ult. So numerous and keen were the competitors in some of the classes that eight mustered in the large premier class for not less than thirty or more than forty varieties from all sections of the genus. So many as eight, nine, and ten entrants competed in other good classes. The Hon. John Boscawen is the hon. secretary of the Cornwall Daffodil and Spring Flower Society, and to him is due the greater part of the credit for such success. The Royal Horticultural Society was officially represented at the show by a sub-committee, composed of the Earl of Ilchester, Rev. G. H. Engleheart, Mr. A. H. Pearson, and Rev. W. Wilks, secretary. Mr. Engleheart's hybrids were especially fine here, the collection receiving a Silver Medal, and the numerous trade exhibits from Messrs. Barr and Sons, Robert Veitch and Son (Exeter), Gauntlett and Co., Treseder and Co., and Curtis, Sanford, and Co. were each conspicuously meritorious. Mr. D. H. Shilson staged a grand collection of Rhododendrons, winning a Flora Medal and other awards.

The chief prizewinner at the exhibition was the Rev. A. T. Boscawen (in the premier class), with splendid samples of Madame de Graaff, P. R. Barr, J. B. M. Camm, Flora Wilson, Lulworth, Mrs. Langtry, Gloria Mundi, Duchess of Westminster, White Wing, and Ellen Barr. Mr. P. D. Williams came a close second, and also stood out well throughout the exhibition; third, Lady Margaret Boscawen; and fourth, Miss F. Currey, Lismore, Ireland. The collections were all good, and included some of the most improved varieties. Mr. J. C. Williams was another very successful competitor, and had prizes in classes 14 to 22. Spring flowers other than Narcissi were largely shown, and there were classes for Anemones, Polyanthus, Primroses, herbaceous plants, &c.

The Midland Daffodil, Edgbaston, April 24th and 25th.

The fourth exhibition was held under the most favourable auspices, both as regards ideal show weather and the extremely large attendance of visitors. And, good as its predecessors have been, the show was decidedly superior to any of them, both in respect to quantity and quality. Too high a meed of praise could not be given to the courteous secretaries of the society, the Rev. Joseph Jacob, Whitewell Rectory, Whitchurch, Salop, and Mr. Herbert Smith, in co-operation with Messrs. R. Dean and W. B. Latham, for the excellent management of the exhibition throughout. With his accustomed hospitality, Mr. R. Sydenham entertained at lunch, on the first day, in a marquee in the Botanical Gardens, the judges and exhibitors; whilst a large number of the visitors took advantage of the bright sunny weather to stroll about the beautiful and picturesque grounds, and to inspect the gaily beflowered greenhouses.

A chief feature of the exhibition was the unique and large collection of St. Brigid Anemones contributed by Messrs. Reamsbottom and Co., Alderborough Nursery, Geashill, King's County, Ireland. These gorgeous double flowers were set up in bunches of mixed colours, and the attraction was so pronounced that it should afford a stimulus to a greatly extended cultivation of these most brilliant and easily grown early spring border flowers. This was the initial visit of Messrs. Reamsbottom with their Anemones to Birmingham. As usual, the trade growers were strongly represented, and when such as Messrs. Barr and Sons; Pearson, of Chilwell, Notts; Dickson, of Chester; R. H. Bath, Limited, of Wisbech; Hogg and Robertson, of Dublin; J. T. White, of Spalding; A. J. Stiles, of Spalding; Miss F. W. Currey, Lismore, Ireland; and such home-growers as Messrs. Pope, Sydenham, Hewitt, Walton, and others are named as being present, some conception may be formed of the glorious floral display afforded.

The Rev. G. H. Engleheart's unique and superb collection of new Narcissi was undoubtedly the most numerous represented and interesting yet exhibited here by that celebrated hybridist. Especially prominent was his bicolor Egret, with a broad segmented, pure white perianth and rich yellow crown; also Astradenta, a very similar flat or shallow crowned flower of a bright red colour, and perfect perianth of pure white. Other notable new seedlings were Noble, Salmonettae, and Vermeil. The beautiful assortment exhibited by Miss Willmott, of Great Warley, also attracted great attention, and several of the varieties were awarded high honours. Her Charles Wolley Dod, with its fine white perianth and large bright yellow cup, was awarded the Society's Silver Medal for the best medio-coronati Narciss in the show. Messrs. Peter Barr and Sons' new bicolor trumpet Daffodil, Queen Christina, gained a Medal. A flower of the strikingly beautiful new variety, Peter Barr, figured conspicuously in that firm's fine collection of Daffodils.

Competitive Classes.

In the class for fifty varieties of Daffodils, a newcomer, Mrs. Berkeley, of Great Warley, celebrated her inauguration by carrying off premier honours with a grand collection, the prize being Messrs. Barr's elegant Silver Daffodil Cup, value seven guineas. The second prize of £4 was awarded to Mr. A. S. L. Melville, Lincoln, and the third to Mr. F. A. Walton, Handsworth, both with excellent examples, Mr. Melville also being a new competitor in the above class.

In the class for twelve distinct varieties of true trumpet Daffodils, Mr. J. Douglas, Great Bookham, Surrey, was, as on the last occasion, placed first with magnificent blooms, including King Alfred, Weardale Perfection, Madame Plomp, Madame de Graaff, Glory of Leiden, Mrs. T. W. Ware, Shakespeare, Captain Nelson, and Mr. J. B. M. Camm. Second came Mr. H. B. Young, Metheringham, Lincoln; and third, Mr. J. H. Hartill, Olton, Birmingham. It should have been stated that Mr. Young's varieties were Mr. J. B. M. Camm, Captain Nelson, Mrs. J. B. M. Camm, Mrs. T. W. Ware, P. R. Barr, Madame de Graaff, Grandee, John Nelson, Emperor, Madame Plomp, Horsefieldi, and Michael Foster.

For six varieties, Messrs. J. T. White and Sons, Spalding, won with Madame Plomp, Victoria, Madame de Graaff, Weardale Perfection, &c.; second, Messrs. John Pope and Sons, with Mrs. J. B. M. Camm, Madame de Graaff, Weardale Perfection, Rembrandt, Glory of Noordwyk, and Glory of Leiden; third, Mr. W. B. Latham.

The class for twelve medio-coronati, distinct, was well contested, and Messrs. Pope were awarded the premier prize with fine examples of Southern Star, Lucifer, C. G. Backhouse, Rosalind Pope, Ida Pope, Marina, Mrs. Langtry, Flora Wilson, Duchess of Westminster, Cynosure, Lady Margaret Boseawen, and White Lady; second, Mr. James Douglas; and third, Mr. H. B. Young.

For six distinct varieties of medio-coronati, Messrs. J. T. White and Son were placed first with very fine blooms; second, Mr. C. L. Branson, Coleshill; third, Mr. W. M. G. Willows, St. Ives, Hunts; fourth, Mr. F. M. Mole, Edgbaston; and fifth, Mr. W. B. Latham. In the class for six distinct varieties parv-coronati there was only one entry, and Mr. H. B. Young was the recipient with a very good set. For six varieties of true Poeticus, Messrs. John Pope were the only entrants, and secured the first prize award.

For twelve distinct varieties of Daffodils, none of which to cost more than two shillings per dozen, not less than three nor more than five blooms of each, the first prize was assigned to Mr. R. C. Cartwright, King's Norton, with a bright assortment; second, Mr. Alfred Cryer, gardener to J. A. Kenrick, Esq., Berrow Court, Edgbaston; third, Mr. A. G. Stiles, of Spalding. The first prize was offered by Messrs. Hogg and Robertson, Dublin—a Silver Medal. For six varieties, ditto, the first prize was accorded to Mr. J. Sceaney, Harborne; second, Mr. H. Snead, gardener to G. M. Sharp, Esq., Edgbaston. For eighteen distinct varieties, not to cost more than five shillings per dozen, the first prize went to Mr. Isaac Cooke, Shrewsbury; the second prize was not awarded, the exhibitor being disqualified in not conforming to the conditions. For six vases of Spanish Iris, Mr. R. C. Cartwright was the premier winner, and Mr. Robert Sydenham second. The blooms in both lots were exceptionally fine, and proved very attractive. For twelve pots of Daffodils Mr. Cartwright was to the fore; second, Mr. Isaac Cooke; third, Mr. A. Cryer; all being very good. For six pots, first, Mr. W. B. Latham; second, Mr. J. Sceaney; and third, Mr. H. Snead. For six pots Polyanthus Narcissus, Mr. R. C. Cartwright again signalled himself; second, Mr. W. B. Latham, also with very good examples; third, Mr. I. Cooke; fourth, Mr. R. Sydenham; and fifth, Mr. A. Cryer.

Tulips.

These made a brave show, and were unusually fine. Mr. Cartwright was victorious with Fabiola, Queen of the Netherlands, Grace Darling, Unique (syn. Brunhilde), Joost van Vondel, and Keizers Kroon. Mr. R. Sydenham was second; third, Mr. A. Cryer; fourth, Mr. I. Cooke; and fifth, Mr. Latham.

For six pots of Lily of the Valley, Mr. A. Cryer was first with a beautiful lot; second, Mr. I. Cooke; and third, Mr. R. Sydenham. For six pots of Lilium Harrisii, Messrs. Cryer, Cooke, and Pope were the respective winners with fine examples. Bouquets of Daffodils were a feature, and Mr. J. H. Hartell was placed first with a neat and striking example; second, Messrs. Pope and Sons; third, Mr. R. Sydenham.

Bowls of cut Daffodils were very well shown, and for three bowls Mr. J. Castle was first, Mr. A. Cryer second, and Mr. Cartwright third. For a single bowl Messrs. Pope and Sons first, Mr. A. Cryer second, Mr. Cartwright third, and Mr. J. Sceaney fourth.

In the class for table decorations of cut Daffodils, arranged in vases on a round table, Mr. A. Cryer was first with an elegant arrangement; second, Mr. J. Sceaney; third, the Rev. J. Jacobs; fourth, Mrs. Rowland Mason, Edgbaston; and fifth, Mr. J. H. Hartill.

Premier prizes for the best blooms of Daffodils in their respec-

tive varieties were King Alfred by Mr. J. Douglas, White Queen by Messrs. John Pope, and Blood Orange by Mr. A. S. L. Melville.

Certificated Daffodils.

Miss Willmott, Great Warley, was awarded F.C.C.'s for Charles Wolley Dod and Cresset; Awards of Merit for Betty Berkeley, Warley Magna, Incognita, and Oriflamme.

An exceedingly pleasant gathering took place in the evening, when Messrs. J. Pope and Robert Sydenham invited a number of the principal growers and exhibitors to dinner at the Old Royal Hotel, Birmingham. Mr. Pope presided. After dinner a few toasts were honoured. That of the judges and exhibitors was submitted by Mr. J. D. Pearson, and responded to by the Revs. G. H. Engleheart and S. E. Bourne in happy vein. The toast of the evening, "The Success of the Midland Daffodil Society," was given by Mr. F. W. Burbidge in most *à propos* terms, and to which Mr. R. Sydenham responded. The toast to the visitors was given by Mr. Sydenham, and responded to by Messrs. R. Cock, Stafford, and T. W. Soby, of Sheffield. Professor Hillhouse unfortunately was unable to be present, owing to illness, and a letter of sympathy was proposed to be sent to him. A short conference subsequently was held, and interesting addresses were delivered by Mr. John Pope on "The Daffodil and its Future." Messrs. Pearson, Barr, &c., also took part. Mr. Sydenham's subject was "The Daffodil for House and Table Decoration," illustrated by Daffodils grown in cocoa-nut fibre in ornamental vases.—W. G.

Bristol and District Gardeners.

The fourth annual meeting was held at St. John's Parish Rooms, Redland, on April 24, Mr. E. Binfield occupying the chair. The report and balance-sheet for the past twelve months was adopted, and it was hoped that every gardener of the district would become interested in the good work the association was doing. Lieutenant-Colonel H. Cary Batten was again elected as president, he being a gentleman who is deeply interested in the horticultural pursuits of Bristol, and who is always willing to render aid for the advancement of the gardening world. Mr. E. Binfield was elected as chairman, and Messrs. E. Poole, F.R.H.S., and Garnish as vice-chairmen for the ensuing year. Mr. W. Ellis Groves was re-elected as hon. secretary and treasurer, as also Mr. H. Killey as assistant hon. secretary. Two medals have been offered for the best attendance during the next twelve months. Mr. H. E. Groves was elected to act as registrar. Fifteen members were elected to serve on the committee, and five members were asked to act as a sub-committee to consider the advisability of forming a library for the benefit of the association. The hearty thanks of the society were accorded to the president, chairman, and officers and committee of the past year, as also to Mr. W. A. Garaway for his great assistance, financially and otherwise. During the evening prizes for two table plants were awarded to first, Mr. J. B. Brain (gardener, Mr. Atwell); second, Alderman W. Howell Davis (gardener, Mr. Curtis); third, Colonel Goss (gardener, Mr. Shaddick). A certificate of Merit was awarded to Lady Cave (gardener, Mr. Poole) for some well-grown Leeks.—H. K.

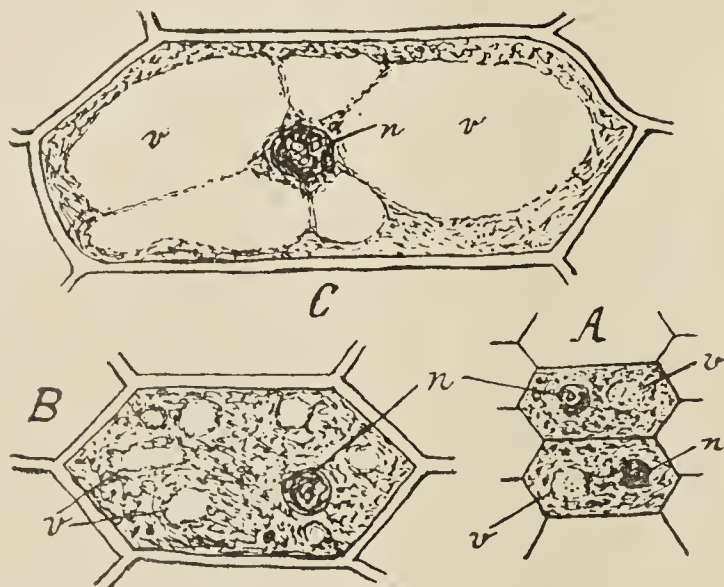
Birmingham Gardeners and Leaf Soil for Orchids.

The concluding meeting of the spring session was held on the 21st ult., under the presidency of Mr. W. Spinks (the treasurer), when Mr. J. Mackay, Orchid grower to the Right Hon. Joseph Chamberlain, was responsible for a thoroughly practical essay, entitled "Cool Orchids," and which was much appreciated by a numerous attendance. Details were given regarding the best structures and their appurtenances suitable for the plants. Stagings constructed of slate were recommended where expense was not a serious consideration; otherwise galvanised iron sheeting proved to be a suitable substitute, and both to be covered with a layer of comminuted sea shells or other suitable material for sustaining moisture beneath the plants, and instead of tiled or stone paths, breeze or cinders afford a more suitable medium for the retention of moisture. In the potting of Orchids, preference was given to decayed roots of Ferns to potsherds, and a compost of turfy peat, sphagnum and unfermented Oak or Beech leaf mould was found by the essayist to be infinitely preferable to the more ordinary bit-by-bit system of "packing" the material among and over the roots of the plants. Mr. Mackay also prefers the compost in question to the Belgian leaf mould as being of a considerably more sustaining nature, though admitting the invigorating quality of the latter for a comparatively short period. The chief virtue of the Belgian leaf soil has been ascribed to the presence of sea salt and sand with which it is impregnated, and the material is highly esteemed by some growers. The high condition of health and vigour, however, of the large collection of Orchids at Highbury attest the system of culture and skill devoted to them by Mr. Mackay. A select list of "cool" Orchids was given, with a few concise descriptions of their respective merits. As the lecture was characterised more by its pregnant remarks and briefness than length, ample time

was afforded for the interesting discussion that followed, and several questions were satisfactorily responded to by the courteous essayist. Mr. J. Sceany, gardener to Alderman Lawley Parker, Edgbaston, exhibited a well grown plant of his new seedling Fern, originating from the pretty *Pteris serrulata* Victoriae, a decided improvement upon its progenitor, in having longer and more elegant pinnated fronds, which are neatly variegated, and the habit of the plant altogether superior. A F.C.C. was unanimously awarded the newcomer. Mr. C. H. Herbert, Sparkhill, was awarded a certificate of merit for a well grown and flowered example of Mignonette "Machet."

Chester Paxton's Society's Show.

The Art Gallery of the Grosvenor Museum presented on Wednesday, April 24, a picturesque appearance on the occasion of the Chester Paxton Society's annual show of spring flowers. This is not the first show of the kind in Chester, but it is the



Young Plant Cells.

The above drawing represents cells at various stages of growth. A, very early stage; the cell-walls are quite thin, and the protoplasm almost fills the cells. B, rather old cell, cell-wall thicker, and vacuoles more numerous. C, older still; the greater part of the cavity now forms a large vacuole; n, nucleus; v, vacuoles. (After Van Tieghem.) Magnified several hundred times.

first that has been held in the Art Gallery, a smaller room having in previous years given the required accommodation. The departure means, of course, that the show is gradually developing into an event of importance, and both from the spectacular point of view, and that of the convenience of the public attending the exhibition, it met with warm approval. The exhibits were arranged around the room, and they just filled all the available space, while allowing room for tasteful arrangement. The season, though rather backward, promised well for spring flowers until Tuesday, when the heavy downpour of rain spoilt a great many of the outdoor varieties. The promoters of the show have formerly been favoured with a collection from Eaton. On the present occasion this was absent, but, fortunately for the show, there was a splendid collection sent by Mr. MacGillcuddy, Bache Hall (per Mr. E. Stubbs, gardener). It comprised Star Cinerarias, Daffodils, Spiræas, and Ferns, and the artistic manner in which they were set out on green moss, with here and there virgin cork introduced, reflected the highest credit on Mr. Stubbs. From Miss Humberston, Newton Hall (Mr. R. Wakefield, gardener), there was a large, and beautiful, and effectively laid out collection, composed of Cinerarias, Callas, Camellias, and Azaleas, and including one exhibit which was the sole representative of its kind in the show. This was a blue Gentian, and one of remarkably fine colour.

Perhaps the most unique collection in the show was one sent by Dr. Mules, The Old Parsonage, Gresford, whose fame as a cultivator of hardy border flowers of all kinds is known all over the country. Specially interesting in the present collection was the uncommon yellow, sweet-scented Violet, close to which were some deep mauve Primroses. The blue *Primula Hepatica* and an exceptionally large *Auricula* both attracted considerable attention, and the Daffodils, scarlet Anemones, and several varieties of hardy Primulas were all exceedingly beautiful. The chief characteristic of Mrs. Townshend Ince's collection was its variety. It included beautiful blooms of Begonias, Forsythias, Azaleas, Anemones, and a vase of the beautiful blue *Browallia speciosa*, which was exceptionally fine. Mr. J. Wynne Ffoulkes was represented by a collection of Narcissus, all of which were particularly fine, especially for a town garden, and Mrs. Ambrose Dixon by some beautiful examples of the popular Star Cineraria, Callas, and Grape Hyacinths. Mrs. Willis Taylor and Mr. Ed. Dixon were both new exhibitors. The former sent some fine examples of Daffodils and Lenten Roses, and the latter a pretty collection composed of Deutzia, Mignonette, and Daffodils. A nice col-

lection of Daffodils and Hyacinths represented Mr. John Wynne, of Waverton. Both Messrs. Dickson, Limited, and Messrs. McHattie sent excellent collections, conspicuous in Messrs. Dickson's being the well-known Sir Watkin Narciss, staged in fine form, also other choice varieties, including Queen of Spain, Mary Anderson, and Glory of Leiden, each of which was much admired. The exhibit of Messrs. McHattie was composed of named Daffodils, Hyacinths, Polyanthus, and a beautiful collection of single Anemones, remarkably pretty in colour. For the success of the show much credit is due to Mr. G. P. Miln, who, with Mr. W. F. J. Sheppard, acted as hon. secretary, and who had the valuable assistance of the ever-energetic curator of the museum (Mr. R. Newstead). Next year in all probability the society will consider themselves justified in holding the show on a still larger scale.

Obituary.

The Late Mr. Thomas King.

I am mourning the loss of a horticultural friend of many years' standing in the person of Mr. Thomas King, who for the greater part of his lifetime had charge of the Gardens of Devizes Castle. On Tuesday, July 15, he was at Trowbridge on business; on his return he complained of illness, and on Thursday, the 17th, he died. An insidious disease had taken possession of him, and gradually obtained the mastery over a constitution apparently sound and robust. He was sixty-seven years of age at the time of his death, and he leaves three sons and two daughters, one of the latter being in America. His wife died about two years ago. he felt her loss severely, and the depression from which he suffered probably accelerated the course of the disease which finally caused his death. He was an excellent all round gardener, a man of great integrity and of characteristic amiability and evenness of disposition. He was greatly respected in the town in which he lived, and he died sincerely regretted.

Born at Roundway, near Devizes, in 1835, he obtained employment in the Gardens of Roundway Park, and showed considerable proficiency in his work. In the autumn of 1860 he was offered and accepted the charge of the Gardens of Devizes Castle, then the residence of Mr. R. Valentine Leach, and here he spent the remainder of his life. At the time of his entry upon the charge of the Castle Gardens they were in a comparatively undeveloped condition, but with the liberal support and personal interest of his employer Mr. King speedily improved matters, and the Castle Gardens soon obtained a wide popularity for the production of Grapes, especially Black Hamburgh and Muscat of Alexandria, and I have seen exhibited by Mr. King some very finely finished bunches of Chasselas Musqué, for he was able to overcome what may be regarded as the constitutional tendency of this Grape to crack. Peaches and Nectarines were also grown with great



Ten Stages in the Division of a Cell.

Successive stages in nuclear and cell division: c, centrospheres (homogenous spheres lying near the nucleus); n, nucleolus (the most dense part of the nucleus); s, chromosomes (segmented threads); sp, spindle fibres; A, B, C, chromosomes, showing longitudinal division and the arrangement of the chromatin, or granules. x circa 600. (After Strasburger.)

success. Specimen Fuchsias were grown to great dimensions by Mr. King. At one of the large exhibitions held at South Kensington by the R.H.S., he won two £10 prizes with Fuchsias, and gained a special medal for superior culture. When some years ago Mr. Leach ceased to reside at the Castle, Mr. King took over the Gardens on his own account, disposing of the produce. He ceased to exhibit for prizes, and his services became in much request as a judge. Always straightforward and honourable in his dealings, he enjoyed the full confidence of exhibitors. At the Bath Shows his services were always in request as judge. He was much esteemed in Devizes by all classes. Of late years he had superintended the annual exhibition of Chrysanthemums held in the Corn Exchange by the Devizes Benevolent Society, which is always a great success. At the time of his death he was a Fellow of the Royal Horticultural Society.—R. DEAN.

IV.—Botany in the Garden.

(Continued from page 344.)

In his remarks on plant cells, page 188, *Journal of Horticulture*, February 27, 1902, "Wm. R. R." only briefly referred to their identity, and with the view to provide a clearer impression of a typical growing cell of the higher plants, the accompanying drawings have been prepared. The elucidatory context tells the story in language robbed of all botanical strictness, but the end is gained, which is to convey an idea of how cells divide, grow, and build up living tissues. The smaller figure, then, explains itself. It shows three stages in the growth of a cell; the first with a very thin wall of cellulose through which the sap flows and mingles with the other contents within; the second stage marks considerable development, and the third a greater difference still. The nucleus is the great centre of activity in the cell, and is in touch with the less dense protoplasmic lining of the cell wall, or otherwise apportioned in that body. It is not the simple body that the older botanists thought it to be, but is indeed complex. The larger cut shows the nuclear mass undergoing a number of changes during the process of division to form new cells. The process is somewhat complicated, but seems necessary in order to effect an equal division of the substance of the mother nucleus between the two daughter nuclei. (Note that nucleus is singular; nuclei, plural.) The centrospheres, whose exact purpose we cannot clearly define, are always found near the nucleus, and when division is about to take place, they move to opposite poles. The threads (botanically called chromosomes) composing the nuclear network then begin to separate and straighten themselves out; they arrange themselves in a plane in a special manner (2 and 3), and spindle fibres, which are protoplasmic threads, now appear and converge on the centrospheres. Gradually and surely, little by little, the chromosomes or threads become definitely arranged, and half appear on one side and the other half on the opposite side. In a very short time, and probably by the aid of the spindle fibres, they are drawn completely apart; the spindle fibres contract, and two definite nuclei appear in place of the solitary one before. During the operation, the centrospheres divide and so form two, to carry on the work when the new nuclei in their turn divide. A cell wall grows between the two divisions, and thus a complete division of the cell has resulted. For fuller details of this interesting process, resource must be had to botanical text books.—J. H. D.

Nature Notes.

Blackbirds and thrushes of a few weeks are learning to obtain their own living, and I have seen several youngsters very strong on the wing.

Queen wasps are becoming more and more numerous. Sand martins and swallows are among us again; their appearance is welcome. The nightingale has been heard for many days, to be correct, since the 15th inst.

While demolishing an ancient church at Lalinde, near Perigueux, some workmen found an egg, apparently in a perfect state of preservation, embedded in the mortar of a wall that had been standing for fully 800 years.

On Wednesday, 23rd inst., heard Nightingales a treat in a copse, in broad daylight. I have loved to watch the coming of our migrating birds for over fifty years. Taking one year with another, I think the dates balance pretty evenly, and agree with Gilbert White's dates in this neighbourhood.—ALICE BAKER, Station Road, Petersfield, Hants; April 28, 1902.

Small tortoiseshell butterflies are to be seen nearly every day; not so the sulphur butterfly: it is rare. I caught a strange insect (fly) a while back. It buzzed like a bee, and possessed a body of like nature to a humble bee, two-winged, those being spotted black, and a long, formidable-looking proboscis. Its movements were graceful, hovering like a hummingbird moth seeking honey. The abundance of fruit tree blossom promises a good fruit season. But who can tell?—H. R., Kent, April 23.



Hardy Fruit Garden.

RASPBERRIES.—Being gross feeders, well-established plantations will be furnished with abundance of fibrous roots, therefore a liberal mulching of rich manure should be applied. The remains of the winter mulching can be cleared off along with deep-rooting weeds that should be forked out.

DESTROYING INSECTS.—A watchful eye ought to be kept on Gooseberry bushes, in order to check quickly an attack of caterpillars. If not numerous pick them off, but dustings of fineline will prove effectual. Crush the maggots which curl up the leaves of Apricots, and check the advance of green and black fly which may attack the points of young shoots of Plum, Cherry, or Peach trees by dustings of tobacco powder.

HOEING FRUIT BORDERS.—Where the ground between fruit trees and bushes has not been disturbed for some time, weeds will begin to spring up with amazing rapidity, hence it is desirable to check their advance by hoeing. This is of much assistance to young fruit trees and recently planted Strawberries, as it serves to keep the ground open for admitting warmth. If desirable, later in the season a mulch of light material can be given.

DISBUDDING, &c.—This method of removing superfluous shoots on wall, cordon, and small bush trees cannot be so readily practised when the shoots get long, but there will still be many which are found better for removing in this manner. If, however, they are found to be long, cut them out with a sharp knife. This is better than allowing them to crowd the trees. In the case of many young Apple trees it is a good system of regulating growth if these are subjected to a process of disbudding for this purpose alone, at the same time also reducing the bunches of flowers on the same principle. Flowers at the points of branches, or too thickly placed on young shoots, may be easily dispensed with; indeed, they will be useless owing to the lack of wood growth above them. Shoots on all young trees, therefore, exhibiting other than wood growths ought to have such removed or cut back to healthy wood buds. Proper extension of the trees may then be looked for, otherwise leading branches may remain at a standstill. The importance also of maintaining the soil moist for the roots from the present time onwards through the summer should be considered. The soil may or may not need moistening at present, but this must be ascertained by examination. Light soil will need earlier attention than that of a retentive character, and a mulching over the roots may be given sooner, the colder and moister ground being allowed to become freely warmed by the sun before applying a coating of manure.—EAST KENT.

Fruit Forcing.

VINES: EARLY HOUSES.—In those started at the new year the Grapes are in an advanced stage for ripening; indeed, some have commenced to colour, and will need a circulation of warm, rather dry, air. An arid atmosphere, however, must be avoided, inasmuch as it is sure to induce an attack of red spider. It is imperative to keep the foliage clean and healthy to as long a period as possible. For destroying red spider recourse is sometimes had to the syringe, which, even when the water is soft and clear, is apt to more or less damage the bloom of Grapes advanced in colouring. Sponging the leaves is a safer means of preventing the spread of the acari, and taken in hand on the first appearance of the pests is not so tedious as it seems. Sulphuring the hot-water pipes should only be had recourse to when the red spider is likely to get the upper hand; then it must be judiciously applied, or the fumes will be as disastrous to the Grapes as destructive to the red spider. Sulphur begins to vaporise at 170deg, therefore the hot-water pipes must be heated between that temperature and 200deg for about an hour, and then the heat may be allowed to fall to the ordinary heat. The latter part of a calm day should be chosen for the operation, keeping the ventilators open while the pipes are being heated; and when they have become sufficiently so apply the sulphur, which, being brought to the consistency of thin cream with skim milk, can readily be put on thinly with a brush. It will be necessary to heat the pipes again in about a week, but they need only be rubbed with a brush moistened in clear water.

HOUSES OF RIPE GRAPES.—Early Vines have ripened their crops somewhat earlier than usual, and where not over-cropped and kept clean the Grapes are well coloured and of excellent quality. Maintain a circulation of air, and allow the temperature to fall to 60deg at night. The soil should be kept

healthfully moist, so as to keep the foliage in good condition. Moderate air moisture also is essential to prevent the foliage prematurely ripening, and it benefits rather than prejudices the keeping of the Grapes, provided the atmosphere is not stagnant. As the Grapes are liable to lose colour with hanging, a slight shade will be beneficial in helping to keep colour, especially in Black Hamburgh and Madresfield Court. A double thickness of herring netting or a single thickness of pilchard netting placed on the roof lights is sufficient. It is also desirable, where it can be practised without crowding the principal leaves, to allow a moderate extension of the laterals, which will tend to promote root activity and assist the Vines to recuperate their wasted energies.

SUCCESSION HOUSES.—Follow up thinning the bunches and berries, also tying, disbudding, stopping, and regulating the growths. Allow crops proportionate to the vigour of the Vines, and retain as much foliage as can have full exposure to light and air, for on the amount of assimilating power and the supplies of nutriment depends the health of the Vines and their power of swelling and perfecting their crops. Examine the borders at least once weekly, and when dry water freely, assisting those in full foliage and carrying heavy crops with tepid liquid manure and surface dressings of rich material, or a couple of inches thickness of rather lumpy manure well sweetened, but not very much reduced. In addition to this, mineral food should be provided. The advertised fertilisers are compounded of various salts in a form readily available as plant food, and mainly consist of phosphatic, potassic, and nitrogenous matters, which are especially valuable for Vines. Use a quarter of a pound per square yard every fortnight or three weeks, alternating with water or liquid manure supplies. Well-drained inside borders will take almost any quantity of water after the Vines are in full leafage, it having a sanitating as well as a moisture supplying effect; and the sweeter the soil or food held in solution the more healthy the Vines will be, provided the foliage is kept clean, has full exposure to light, and the atmospheric conditions are favourable.

LATE HOUSES.—Disbudding, also tying and stopping the growths, must be attended to as they become sufficiently advanced. The brighter weather has given the foliage a remarkably healthy blue-green colour, so characteristic of healthy, active feeders luxuriating in phosphoric, potassic, and nitrogenous aliment. Every advantage of sun heat should be given to increasing the ventilation early in the day and of closing early in the afternoon, as a means of securing a long day's work and of vigour and health in the Vines, dispensing with fire heat as much as possible, and yet employing enough to keep the Vines in steady progress. Make selection of the bunches that are to remain for the crop, large bunches, especially loose, being the worst for finish, and the medium sized and compact the best for perfecting properly and keeping. Crop lightly rather than too heavily, and apportion the crop to the vigour and variety of Vine.—**ST. ALBANS.**



* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

RHODODENDRON VARIETIES (Young Exhibitor).—*Rhododendron aureum*, named by you, is a warm greenhouse species (note that it is "warm greenhouse"), and, therefore, could only be shown in a collection of stove and greenhouse flowers. The variety *R. Victoria Regina* we do not know.

BACHELOR OF SCIENCE DEGREE (Oxonian).—The "subjects it is necessary to know to be able to pass [final] the B.Sc. examination" are, amongst others, the following: Botany, organic and inorganic chemistry, geology, mathematics pure and mixed, physics, zoology, geography, especially physical. Three of the subjects must be taken at the final examination. It is advisable, or absolutely necessary, to be able to use the Latin, French, and German languages. For further information apply to the headmaster of a college.

PLAN OF A GARDEN (C. A. S.).—We are obliged to withhold the answer till next week.

AURICULA FLOWER (Oakleigh).—In size of flower and truss, in depth and beauty of colour, in sweetness of scent, and in the evenness of the "paste" around the eye, your variety is good, but the general form is a trifle too ragged to please the strict fancier. It is a sweet, decorative variety, and we have sent a flower to Mr. James Douglas, V.M.H., for his expert opinion.

WHITE-TIPPED ARAUCARIA EXCELSA (C. P.).—Nothing seems to be known of a white-tipped variety such as you send specimen of, by those who have had most experience with the plant among our acquaintances here. The tips are sometimes white, but never so elongated and completely individualised as in your plant. The novelty is worthy of care, and we would suggest that you graft suitable shoots of it upon an *A. excelsa* stock. By this means you may in time be able to secure additional plants. Being white and devoid of the chlorophyll necessary for growth, even if you struck cuttings, the chances are all against successful results.

MATERIALS FOR ROCKERY (Rockery).—The materials for rockwork are so variable that it is futile to give particulars as to cost; indeed, we are not in a position to do so, as so much depends upon the selection of material and the distance. The commonest materials used in rockeries are tufa, costing about 50s. per ton, in trucks, in Derbyshire, and the rate of carriage can easily be ascertained from the railway company. Selected Derbyshire spar costs 42s. per ton, and pink Nottingham spar 42s. 6d. per ton. Other material, such as glazed retort burrs, cost 22s. 6d. per ton; selected flints, 21s. 3d.; well burnt grotesque burrs, 18s.; and blue clinkers, 12s. 6d. per ton. Why not write to Messrs. Wood and Son, Wood Green, London, N., and ask for particulars of materials?

MANURE FOR ASPARAGUS BEDS (H. R., Guildford).—The fertiliser, consisting of 1cwt kainit and 2cwt common salt, is a heavy dressing for 200 square yards, though a suitable one for very sandy soil, as salt acts well on sand, and of it about 2½lb would be used per square yard, as kainit contains about one-third of salt (chloride of sodium). We should prefer a manure containing more essential food, such as bonemeal and kainit in equal proportions, and applying 7lb of the mixture per rod, or 4oz per square yard, and, in case animal manure is not used, supplying a similar quantity of rape dust, all being applied when the beds are dressed in the spring and lightly pointed in. Or, if the kainit and bonemeal alone were supplied, follow as soon as the heads of the Asparagus begin to push with finely crushed nitrate of soda, 1½lb per rod, or 1oz per square yard. This is likely to give better results than the heavy dressing of kainit and salt alone.

CUTTING THE CROWNS OF SEAKALE (D. W.).—The crowns of plants a year old should be cut down so as to make a new crown, and that not likely to run to seed; but the grand secret is to reduce the new breaks to one, or, at most, two on each plant so cut down, reserving the most promising growth on each, and removing the others as soon as choice can well be made. Another season it would be well to cut off the crown before growth is made, thus securing an earlier growth; and, in consequence, longer time, for making and maturing a good growth early, which is a very important matter when the crowns are required for early forcing. Cuttings that have been planted this spring, being root portions that have formed buds, will not require cutting, but merely the growths reduced to one on each, there not being any danger of their running to seed, and, under favourable conditions, they will form crowns available for forcing next winter.

NAMES OF FRUIT.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (C. P.).—Beurré Clairgeau.

NAMES OF PLANTS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (H. R., Kent).—*Amelanchier canadensis*. (A. B. C.).—1, *Acalypha macrophylla*; 2, *Acalypha Macaefcana*; 3, *Adiantum Farleyense*; 4, *Eurya latifolia variegata*; 5, *Dieffenbachia magnifica*, poor leaf; 6, the Double Gean, *Prunus Avium fl.-pl.* (J. B. R.).—*Maxillaria Sanderiana*. (N. L.).—1, *Hibiscus Archeri*; 2, *Pandanus stenophyllus*; 3, *Asystasia bella*; 4, *Sedum sarmentosum*; 5, *Tritonia crocata*, observe the "windows" at the base of each segment. (Oxonian).—The lilac coloured spike is *Petasites vulgaris*, the other a species of *Acer*, but foliage is required before we can determine which one. (T. H. C.).—*Narcissi* are classed as florists' flowers, being mere varieties of species, and, therefore, too numerous and variable for us to undertake to name; you should send to Messrs. Barr or other large grower. From those you send we identify the following: 1, *Narcissus Jonquilla*, the Jonquil; 2, *N. princeps*; 3, Emperor; 4, *N. incomparabilis* Frank Miles; 5, *N. Leedsi* Duchess of Brabant; 6, Orange Phoenix; 7, Leeds, the type; 8, *Telemonius plenus*; 9, *N. incomparabilis* Sir Watkin.

Covent Garden Market.—April 30th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, cooking, bush.	6	0 to 8	0	Grapes, Hamburgh,	
„ Tasmanian ...	11	0	15	new, lb. ...	6 0 to 8 0
Bananas ...	8	0	12	Oranges, case ...	10 0 25 0
Dates, red V., doz. bxs.	5	6	0	Pines, St. Michael's,	
Lemons, Messina, case	10	0	12	each ...	3 6 5 0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	2	0 to 3	0	Lettuce, Cos, doz. ...	3 0 to 4 0
„ Jerusalem, sieve	1	6	0	Mint, doz. bun. ...	8 0 9 0
Asparagus, English, 100	5	0	6	Mushrooms, forced, lb.	0 8 0 9
„ Spanish, bun.	1	0	1 3	Mustard & Cress, pnt.	0 2 0 0
„ Toulouse, „	2	3	3	Parsley, doz. bnchs.	3 0 4 0
Batavia, doz. ...	2	0	0	Potatoes, English, cwt.	3 0 4 0
Beans, French, lb. ...	1	0	1 3	„ new, lb.	0 4½ 5½
Beet, red, doz. ...	0	6	0	„ Algerian, cwt.	13 0 16 0
Cabbages, tally ...	6	0	8	Radishes, doz. ...	0 9 1 0
Carrots, new, bun. ...	1	0	1 3	Seakale ...	1 0 1 3
Cauliflowers, doz. ...	2	0	3	Spinach, bush. ...	3 0 4 0
Corn Salad, strike ...	1	0	1 3	Sprue, French, dozen	
Cucumbers doz. ...	2	6	3	bunches ...	8 0 9 0
Endive, doz. ...	1	6	0	Tomatoes, Canary	
Herbs, bunch ...	0	2	0	consignment ...	4 0 4 6
Horseradish, bunch ...	1	6	0	Turnips, bnch. ...	1 3 1 6
Leeks, bunch ...	0	1½	0	Watercress, doz. ...	0 6 0 0
Lettuce, Cabbage, doz.	1	0	1 3		

Average Wholesale Prices.—Plants in Pots.

Most of the undermentioned plants are sold in 48 and 32-sized pots

	s. d.	s. d.		s. d.	s. d.
Acacia Drummondii,					
doz. ...	18	0 to 0	0	Ficus elastica, doz. ...	9 0 to 12 0
Aralias, doz. ...	5	0	12	Foliage plants, var, each	1 0 5 0
Araucaria, doz. ...	12	0	30	Fuchsias ...	8 0 0 0
Aspidistra, doz. ...	18	0	36	Genistas, doz. ...	6 0 8 0
Boronia heterophylla,				Geraniums, dble., doz.	6 0 8 0
doz. ...	12	0	18	Grevilleas, 48's, doz.	8 0 5 0
Crotons, doz. ...	18	0	30	Heliotropes ...	8 0 0 0
Cyclamen, doz. ...	6	0	9	Hydrangea Thos. Hogg	10 0 18 0
Cinerarias, doz. ...	4	0	6	„ pink ...	10 0 12 0
Cyperus alternifolius				Lycopodiums, doz. ...	3 0 0 0
doz. ...	4	0	5	Marguerite Daisy, doz.	8 0 10 0
Dracæna, var., doz. ...	12	0	30	Mignonette ...	8 0 9 0
„ viridis, doz. ...	9	0	18	Myrtles, doz. ...	6 0 9 0
Erica candidissima ...	18	0	30	Palms, in var., doz. ...	15 0 30 6
„ Cavendishii ...	21	0	48	„ specimens ...	21 0 63 0
„ Persoluta ...	18	0	21	Pandanus Veitchi, 48's,	
„ ventricosa nana	18	0	21	doz. ...	24 0 30 0
„ „ coccinea	18	0	21	Pelargoniums, doz. ...	10 0 15 0
„ Wilmoreana ...	9	0	12	Primulas ...	3 0 4 0
Ferns, var., doz. ...	4	0	18	Shrubs, in pots ...	4 0 6 0
„ small, 100 ...	10	0	16	Spiræa japonica, 48's,	
				doz. ...	6 0 8 0

Average Wholesale Prices.—Cut Flowers

	s. d.	s. d.		s. d.	s. d.
Arums, doz. ...	2	0 to 0	0	Maidenhair Fern, doz.	
Asparagus, Fern, bnch.	1	0	2	bnchs. ...	6 0 to 0 0
Azalea mollis, bunch	0	6	0	Marguerites, white,	
Bouvardia, coloured,				doz. bnchs. ...	4 0 0 0
doz. bunches ...	6	0	8	„ yellow, doz. bnchs.	2 0 0 0
Carnations, 12 blooms	1	3	1	Myrtle, English, per	
Cattleyas, doz. ...	8	0	12	bunch ...	0 6 0 0
Cornflower, doz. bun.	1	0	1	Narcissus, Poeticus, doz	1 0 0 0
Croton foliage, bun. ...	0	9	1	Odontoglossums ...	4 0 0 0
Cycas leaves, each ...	0	9	1	Orange blossom, bunch	2 0 3 0
Cypripediums, doz. ...	2	0	3	Primula, double white,	
Daffodils, single, doz. ...	2	0	3	doz. bunches ...	6 0 8 0
Eucharis, doz. ...	2	0	3	Roses, Niphetos, white,	
Gardenias, doz. ...	2	0	1	doz. ...	1 0 2 0
Geranium, scarlet, doz.				„ pink, doz. ...	2 0 4 0
bnchs. ...	4	0	6	„ yellow, doz. (Perles)	1 0 2 0
Gladiolus, white, doz.				„ Maréchal Niels ...	2 0 4 0
bunches ...	12	0	15	„ Generals ...	2 0 4 0
Gypsophila, doz. bun.	6	0	8	Smilax, bunch ...	3 0 4 0
Iris, Spanish, doz. bun.	9	0	12	Stephanotis, doz. pips	2 0 3 0
Ivy leaves, doz. bun. ...	1	6	0	Stock, double, white,	
Lilac, French, white,				doz. bun. ...	2 0 2 6
bunch ...	3	6	0	Tulips, white, single,	
Lilium Harrisii ...	3	0	0	doz. bun. ...	9 0 12 0
„ lancifolium alb.	2	0	2	„ scarlet, single,	
„ l. rubrum ...	2	0	2	doz. bun. ...	4 0 0 0
„ longiflorum ...	3	0	4	Violets, single, doz. ...	0 9 1 0
Lily of the Valley, 12				Wallflowers, doz. bun.	2 0 3 0
bnchs ...	6	0	12		

New Narcissus.

Messrs. Dicksons, Limited, Chester, send to us a trio of blooms of one of Mr. Engleheart's new seedling Narcissi which they have bought, and will distribute in the autumn of 1903. It is a Leeds variety, and is named "Elaine." The flower is delicately beautiful, and ivory white in all parts.



Gentlemen Farmers.

Sometimes we wonder very much how and what we should write—what will be acceptable to our readers, and we are always glad of a hint. Sometimes the hint comes from an unexpected source, but it is none the less acceptable. Only yesterday we received an American paper with an article bearing the above heading, and as it was marked with a blue pencil we guessed we had an interest in it. Perhaps our views and the American views won't quite coincide; but that's only too likely. We hardly thought "gentlemen farmers" were American creations; they are more old-time Englishmen. And, alas! we have to say they do belong to a different England from the present—there is no room for them now; they are crowded out, starved out, in fact.

This process of elimination has taken place during our own lifetime, and it is with feelings of great sadness we think of it. What is a gentleman farmer? Most people will point to two classes; but we think ourselves he can only be properly reckoned in one. The first class is that of the gentleman amateur, and under that heading we may place (1) those men who, for love of the occupation or because they can't let their land, take a portion of it in hand themselves. These are probably great landowners, and also titled folk, and not necessarily men of great wealth; indeed, the possession of land nowadays may be looked upon as a great drawback, the emoluments are so small and the responsibilities so great.

Hampered as some, or most, of these men are, it is an open question if they really make any profit out of their farming. True, one may say they have no rent to pay. No, not in one form; but many estates are so heavily mortgaged that the interest on the borrowed money is a considerable rent. And then, again, from their position these men are not able to take a really active oversight of their farms; they have no time to go into details (even if they should understand them), and all the practical work of management has to be done by paid officials, so that the cost of "running the show" is heavy.

Then, again, the land in hand is some for which no tenant can be found, and, therefore, we may fairly suppose it is not the very best, for good land even yet lets itself. Of course, it will be said that most of these titled men farm so that they may ride a hobby—perhaps Shires, maybe Shorthorns, Jerseys, Dexters, or even the best breeds of pigs and sheep. Whether the owner ever reaps any profit himself is more than doubtful. That he benefits the community is very certain, and by the community we mean not only those whom he employs (their name is legion), but the world at large, for the man who raises pure good stock may be looked upon as a public benefactor. A man of this type, if he really loves agriculture, is willing to lend both himself and his land for experimental work, and before the institution of experimental schools or colleges it was to these men alone that we could look for any encouragement in the finer arts—i.e., testing, trying, experimentalising. There are names that will be written on the scroll of fame, and that have been written, and when it is asked: "What is it they have done?" the answer will be: "They endeavoured to produce double crops of grass and grain, and of double quality. They found inferior breeds of oxen and sheep, and by means of selection and judicious crossing they produced a better type—i.e., for the butcher and the woolstapler. When they took horseflesh in hand they so improved the pleasure and the working horse that sires of English breeding are in request the world over."

Where they have pointed the way, others have followed. And we should never forget that the great experimental farm at Rothamstead was the work of a private individual, who not only threw himself heart and soul into the work, but who has left it possible that this work of research shall

go on while the need lasts. Now, again, there is gentleman amateur No. 2. Probably he is a man who has amassed a fortune, and wishes to become, or to found, a county family. The first step appears to be achieved when he gets hold of a nice estate, and because time hangs heavy, or his neighbour, Lord So-and-So, does it, he takes in hand some land. He has got many theories, and he is keen of working them out. Money being of no object, everything he has is of the best and most expensive; in fact, the farm is a perfect model so far as buildings and appliances go.

For the first year or two his pleasure in his new toy is unbounded. He was prepared not to expect much return just at once, but presently his commercial mind asserts itself, and when he begins to try and balance books they won't balance. There are factors on which he never counted, and he finds he is powerless when it comes to the point of weather and unfavourable markets; besides, too, he is now a dealer in live stock, and he finds his petted and pampered herds do not bring him much beside anxiety. He is not quite public spirited enough to care that he is making work for the villagers, and that he is improving (at great personal expense) stock for the benefit of his neighbours. The chances are that after a few years (if he gets as far) he stops this work, and is much out of love with himself and farming generally. If he is a shooting man he turns his attention to his coverts, or else throws up his country life in disgust.

Now for the gentleman farmer as we know him. Alas! he is rapidly dying out. He has been a brave man, and a sorely tried one, and he has only laid down his arms after a severe struggle with the enemy Poverty. Presently he will exist in novels alone; for, to our knowledge, no gentleman farmer of our acquaintance has the remotest idea of bringing up any of his sons to this calling. Thirty or forty years ago the gentleman farmer was much in evidence. There was a living then to be got out of the land. There was sure to be a fairly comfortable house, nice neighbours, and all the pleasures of rural life. The men of that day had received a good education—many of them in public schools. They had capital, and put it freely into the land. There were people who charged them with over-expenditure; but they spent no more than any tradesman who was working on the same amount of capital.

They were men who had been brought up to have things nice around them, and they did not grudge to their children the educational advantages they themselves had enjoyed. They farmed to live, never for one moment expecting that times would come when it was impossible to get a living out of the land. They were good employers of labour, and their money circulated freely. By-and-by the pinch came, rents went up, there was an unnatural competition for land, labourers struck, cost of production increased on every side, that terrible visitation rinderpest appeared, and where the full virulence of the disease showed itself that farmer, if not ruined, was crippled for years; in fact, we know of several who never afterwards looked up.

Foot and mouth disease wrought sad havoc, and there were no wise restrictions. Then came the drop in Wheat. We remember so well that Tuesday market in our nearest big town when news came that Wheat had dropped 10s. per quarter. It was thought to be only temporary, and due to the fine harvest weather and bumper crop; but we were only at the very beginning of the trouble. Down—down it tumbled till we saw it reach a pitiful 18s. Ah, me! we have lived through sad times. Then another staple product went the same way. The wool that brought in such nice money against summer rent—it is hardly now worth the shearing. Rents at last began to fall; but not in proportion to the farmer's losses, and the labourer still held out for the higher wage.

The farmer began to look anxious, and wonder where he could curtail expenses. First went the luxuries, then the comforts, then the necessities. No more expensive schools for the children, the bit of shooting was let, the waggonette replaced by a pony tub, domestic help reduced—cheese-paring in every direction. At first those who had enjoyed the years of plenty had their surplus to fall back upon; those who had only lately begun had nothing, and the struggle was soon over with them. The pleasant homes had to be given up. There was a forced sale of stock; possibly the landlord had been easy with rent to give a good tenant a chance, then all back reckonings had to be paid, and the valuations on going out did not realise anything like the

amount paid on entering, and the man had to begin life over again, with a wife and family, little or no capital, and no experience of anything but farming. He had been taught that headwork was all that was expected of him in connection with a large farm; he found always he had plenty to do to direct and think and plan. The work was like an elaborate puzzle, and just when each piece was nearly adjusted a change in the weather jumbled all up again.

We know of farming personally in several counties, and know farms of all sizes up to 1,000 and 1,400 acres; but in no case when there has been a change of tenancy has the change been for the better from a social point of view. The new men are derived from quite a lower walk in life—successful butchers and cattle jobbers, Potato dealers, auctioneers, the better class of foreman and skilled labourer. We don't say they are not clever men, but they are not the old stamp—they are too nearly allied to their own work-people. In fact, much of the work is done by the family, the sons standing in as labourers. Muscle and sinew against brain. The tone of the villages has gone down; the clock has been put back sixty years, and when these men are tired of incessant toil for little result, we don't know quite who is to follow them.

The old class is gone, never to return, and we are loth to think all England is to be cut up into small holdings. Putting aside the money aspect, well-educated, pleasant people exercised a refining influence in the country. There is much public work that they willingly undertook and carried out to a successful issue without fee or reward. The present day men, even if willing, are not equal, through want of previous training and broadmindedness, to be of much value, and the parson and the squire have to make good the deficiency. It is said the yeoman proper has disappeared; he merged into the gentleman farmer, who in his turn has given place to the working foreman.

Work on the Home Farm.

The tide always ebbs and flows, and so does farming. There is a silver lining to every cloud, though we cannot always—nay, very seldom—see it, but the sun is there all the time, awaiting the opportunity for his rays to break through. We farmers should take a lesson from his steadfastness, and keeping a watchful eye open, miss no opportunity of a break in the clouds. Here we are with fallows practically clean and only waiting for the proper season to drill Turnips. Our seeds are bad, very bad. They will carry no stock, or, at any rate, very little. Why cannot we see our way to sow the fallow land with Barley, or at any rate, some of it—say, the portion that should have been sown with common Turnips late in June? But the difficulty is with the sheep. On farms where there is a large proportion of grass the trouble is not so great, but on arable farms like those we have to deal with, the loss of the seed plant almost means the sale of our sheep. Perhaps the sowing of one of the seed fields with a mixture of Vetches and Rye would be more useful in keeping the sheep at midsummer and disturb the rotation of the farm less than sowing fallow land with corn and Turniping a piece of seed land.

Another beautiful rain is followed by genial weather, and we see rapid growth everywhere. The thin Wheats are improving, but some of them will never make paying crops. They look greener now, but it is the weeds which are making the greater show.

It is not too late to plough the land and drill Barley, and the warm growing weather is decidedly encouraging to such a course. Spring corn has come up well and looks beautiful. Our prospects in this one respect are very good. Notwithstanding scarcity of keep live stock is advancing in price. Buyers are driving round on the look out for desirable bargains, and farmers are in good spirits accordingly. If they are compelled to sell their sheep they at any rate can get good value for them.

We have not cleared all the Potatoes yet, but a few consignments are still going to New York, where the market reports read better. Trade is still bad here, except for a few of the very best, which are now in increased demand. They are growing very rapidly in the pits, especially those which have been recently moved for the purpose of taking out the seed.

It is an old axiom of Potato management that Potatoes keep better untouched. So far they have kept their firmness well, but we notice that the bags are much fuller than they were, so there must have been considerable loss of weight.

Low prices have not frightened some of our neighbours, and they are planting much greater acreages. Potatoes are very pleasant things when they pay well, but they are exhausting to the land, and may easily be overdone. There may be finger burning in store for some of us.

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Invicta, crimson, very fine, 3ft. ..	1/-
Jealousy, rich clear yellow, 4ft. ..	1/-
J. Weir Fife, bright purple, 2½ft. ..	1/6
Kathleen, light orange-red, 4ft. ..	1/-
Lord Brassey, deep mauve, 3ft. ..	1/-
Lord Roberts, white, creamy centre, 3ft. ..	1/6
Lytic, deep bronzy red, base of petals greenish yellow, 2½ft. ..	1/-
Major Hobbs, clear rose, very free, 4ft. ..	1/-
Minerva, orange-buff, shading to salmon, 4ft. ..	1/-
Monarch, orange-red, tipped magenta, 3ft. ..	1/6
Mrs. Castle, pale lemon-yellow, 4ft. ..	1/-
Mrs. H. J. Allcroft, soft orange buff, 3ft. ..	1/-
Mrs. Jowett, apricot, shaded coppery red ..	1/-
Pretoria, light scarlet, 4ft. ..	1/-
Prince of Yellows, deep pure yellow, 4ft. ..	1/-
Purity, pure white, 3ft. ..	1/-
Rosine, beautiful rose, 3ft. ..	1/-
Salmon King, bright salmon, 3ft. ..	1/-
Sandpiper, scarlet, shaded orange, 4ft. ..	1/-
Seigfried, pure white, very fine ..	1/-
Sheriff Henderson, bright rosy salmon ..	1/6
Surprise, deep rose-pink, 3ft. ..	1/-
Vesta, pink, paling towards centre, 3ft. ..	1/6
Village Maid, creamy-yellow, edged carmine-crimson, 3ft. ..	1/-

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Journal of Horticulture.

THURSDAY, MAY 8, 1902.

The Dahlia Analysis.

IN writing this, the nineteenth Dahlia analysis that I have contributed to the *Journal of Horticulture*, I am reminded of the great changes that have taken place in the Dahlia world during the period covered by those analyses. In the earlier years of the period the Shows and Fancies formed the mainstay of any Dahlia exhibition, and the splendid new varieties which appeared year by year served to maintain the great interest taken in them, whereas at the present time, although the number of Show and Fancy Dahlias exhibited is still well maintained, they are, at all events for the time being, rendered less prominent than before by the imposing displays of the more generally attractive Cactus Dahlia. The most remarkable contrast is, I think, to be found in the ages of the varieties in the two sections. For instance, there are only five varieties among the Shows on the accompanying table which are less than six years old, whereas a Cactus Dahlia which is still prominently exhibited, or indeed, exhibited at all four years after the date of its introduction, is now regarded as quite an old stager.

For the present position of the Cactus Dahlia much credit can, I think, be justly claimed by the National Dahlia Society, which at a critical period in the development of this new type of flower so steadfastly and consistently discouraged the exhibition of the so-called Cactus or Decorative varieties, with their flat and often flimsy florets. Any readers of the *Journal* who may be interested in that grand early autumn flower the Dahlia and its latest developments in all sections, should if possible visit the next exhibition of the National Dahlia Society. The exhibition will be held for the first time this year in con-

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junction with the Royal Horticultural Society, at their Exhibition Hall, in Buckingham Gate, Westminster, on September 2 and 3, and will undoubtedly contain the largest and most representative display of Dahlias that has yet been seen in London.

The number of blooms or bunches, as the case may be, set up in competition at the last five exhibitions of the National Dahlia Society, in each of the five sections into which Dahlias are now divided, will be found in the following short statement:—

	1897	1898	1899	1900	1901
Shows, No. of blooms	930	838	702	682	832
Fancies, „ „ „	312	305	336	314	272
Pompons, No. of bunches ..	234	190	180	222	228
Cactus, „ „ „	432	361	297	354	357
Cactus, shown singly	—	216	216	798	672
Singles, No. of bunches	116	131	117	126	153

In the above list no account is taken in the case of Shows and Fancies of the number of blooms set up in the classes for three or more flowers of any one variety, nor in the case of the Cactus varieties of the exhibition blooms staged in vases.

Show and Fancy Dahlias.

At the last exhibition there was a gratifying increase in the number of Show Dahlias as compared with the two previous shows, and it is to be hoped that the number will be still further increased this year when the exhibition of the National Dahlia Society will be held in Westminster, which will be so much easier of access to exhibitors generally than the Crystal Palace. It is also to be hoped that the weather conditions may prove more favourable for the development of these fine exhibition flowers than has been the case in recent years. The increase referred to cannot be regarded as of a spasmodic character, for I find that the number of Show Dahlias staged in 1901 was greater than at five of the previous nine exhibitions of the Society.

In the accompanying tables the positions of the Shows and Fancies are dependent upon the average number of times each variety was staged at the last eight exhibitions of the National Dahlia Society in all instances where their records will allow of this being done. In the case of the newer sorts, which are comparatively few in number, their average records for a necessarily shorter series of years have been utilised.

SHOW DAHLIAS.

Position in Present Analysis.	Average Number of Times Shown.	No. of Times shown in 1901 in True Relative Proportion to the Average.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	28.1	29	Mrs. Gladstone	1884	Hurst	Pale blush
2	26.1	27	R. T. Rawlings	1886	Rawlings	Clear yellow
3	23.4	24	John Walker	1892	Walker	White
4	21.8	22	Duchess of York	1894	Keynes	Lemon, edged salmon pink
5	21.3	16	Colonist	1887	Keynes	Chocolate and fawn
6	20.9	20	J. T. West	1887	Rawlings	Yellow and purple
7	19.8	16	William Rawlings	1881	Rawlings	Crimson purple
8	17.6	19	Duke of Fife	1890	Keynes	Rich cardinal
9	17.1	11	Harry Keith	1886	Keynes	Rosy purple
10	17.0	18	William Powell	1892	West	Primrose yellow
11	16.9	13	Mrs. Langtry	1885	Keynes	Cream and crimson
12	16.7	19	Dr. Keynes	1896	Keynes	Rich buff
13	16.6	19	Maud Fellowes	1889	Fellowes	Pale pink, shaded purple
14	16.4	12	Arthur Rawlings	1892	West	Deep crimson
15	16.2	14	James Cocker	1871	Keynes	Purple
16	14.8	12	Miss Cannell	1881	Eckford	Cream and crimson
17	14.5	13	Florence Tranter	1896	Tranter	Blush white, edged rosy purple
18	14.2	18	Shotesham Hero	1895	Fellows	White, tipped and shaded rose
19	14.1	11	John Hickling	1890	Keynes	Clear bright yellow
20	13.5	16	Chieftain	1894	Keynes	Purplish lilac
21	13.4	12	Mrs. W. Slack	1886	Keynes	Blush white and purple
22	13.3	17	Henry Walton	1873	Keynes	Pale yellow and scarlet
23	13.1	14	Harrison Weir	1883	Rawlings	Yellow
24	11.1	9	Arthur Ocock	1892	Rawlings	Reddish orange
24	11.1	13	Victor	1887	Keynes	Dark maroon
26	11.0	17	Prince of Denmark	1881	Fellowes	Dark maroon
27	10.8	15	Willie Garrett	1887	Garratt	Bright cardinal
28	10.6	1	Ethel Britton	1880	Keynes	White and purple
28	10.6	14	T. J. Saltmarsh	1885	Rawlings	Yellow and chestnut
28	10.6	15	Goldfinder	1881	Fellowes	Yellow and red
31	10.5	8	Shirley Hibberd	1881	Rawlings	Dark crimson
32	9.8	11	Warrior	1894	Keynes	Scarlet
33	9.5	11	Virginale	1893	Keynes	Blush white, edged pink
34	9.1	13	George Rawlings	1882	Rawlings	Dark maroon
35	9.0	17	Mrs. D. Saunders	1888	Rawlings	Pale, edged rose
36	8.1	13	Hon. Mrs. P. Wyndham	1881	Keynes	Pale yellow and rose
37	7.6	3	Perfection	1889	Fellowes	Orange buff
38	7.5	9	Daniel Cornish	1897	West	Terra cotta red
38	7.5	7	Mabel Stanton	1896	Tranter	Deep yellow
38	7.5	5	Majestic	1890	Keynes	White, edged purple
41	7.3	7	Mr. Glasscock	1886	Rawlings	Purple
42	6.8	2	Alice Emily	1890	Keynes	Buff yellow
42	6.8	6	Glow-worm	1889	Turner	Bright orange scarlet
44	6.6	6	Diadem	1888	Fellowes	Deep crimson
45	6.5	4	Crimson King	1887	Keynes	Deep crimson scarlet
46	6.4	9	Imperial	1883	Keynes	Purple and lilac
47	6.3	3	Earl of Ravensworth	1883	Harkness	Lilac
48	6.2	4	Mrs. Morgan	1893	Fellowes	Pale ground, tinted rosy purple
49	5.7	5	Mrs. Every	1896	Keynes	White, edged lilac
49	5.7	6	Muriel Hobbs	1898	Hobbs	Yellow
51	5.4	3	Prince Bismarck	1879	Fellowes	Puce

In my last analysis I stated that there were as yet no signs of the leading flower in the table of Show Dahlias, Mrs. Gladstone, being superseded by any other variety. But on re-examining the records of that superb yellow Show Dahlia R. T. Rawlings more closely I find that they are more consistent than any other variety on the list, and that twice during the last seven years it was exhibited more frequently, and in another year as frequently, as Mrs. Gladstone. Moreover, unlike the premier flower, R. T. Rawlings is now as often shown as it was thirteen years ago, whereas Mrs. Gladstone for the first six of those exhibitions, comes out with an average annual record of thirty-nine times against an average of only twenty-eight times for the remaining seven exhibitions. So that, after all, there are indications, and in my judgment very decided ones, of R. T. Rawlings ultimately outstripping the delicately tinted and refined Mrs. Gladstone in the race for premier honours. Of the established kinds which find a place among the leading twelve Shows may be specially mentioned another very consistent variety—Duchess of York. It is the youngest but one of the twelve, and has gradually been improving its position in the analysis until it has now risen to the fourth place in the table. Among other varieties which were last year unusually well represented may be mentioned Maud Fellowes and Mrs. D. Saunders, which at no previous exhibition have been as frequently staged, while Prince of Denmark, Willie Garratt, Goldfinder, and those two old favourites, the Hon. Mrs. P. Wyndham and Henry Walton (once the leading pair in the analysis) have seldom been as often exhibited. On the other hand, Colonist, Arthur Rawlings, and Ethel Britton have never before been as sparsely staged, while William Rawlings, Harry Keith, and Mrs. Langtry were also to be seen in comparatively few stands.

Regret must again be expressed at the few new Show Dahlias to be found in the table. Classing under that description those which at the last exhibition were five or less years old, they will be found to be six in number. The variety standing highest on the list is Dr. Keynes (No. 12), an 1896 variety, which has risen three places since the last analysis was issued. The other three Shows of the same year—Florence Tranter (No. 17), Mabel Stanton (No. 38), and Mrs. Every (No. 49)—have, however, since then made no advance. Daniel Cornish, sent out in 1897, has done well, considering its youth, in rising from the bottom of the list to No. 38. The remaining variety, Muriel Hobbs, distributed in 1898, has also slightly improved upon its previous position.

Turning now to the table of Fancies, which, unlike the Show varieties, were for some reason staged in unusually small numbers, we find the veteran Rev. J. B. M. Camm still heading the list, a position it has now held for six years. But the surprising feature in this table is that, notwithstanding the poor show made by the Fancy Dahlias generally, one of their number—Rev. J. B. M. Camm—has only once before been as largely represented as it was last year, while another favourite variety,

Mrs. Saunders, has not appeared in as many stands since 1892, and only once before, and that twelve years ago, has it been more numerously staged. Emin Pasha, Buffalo Bill, and S. Mortimer was more frequently shown than at any previous exhibition. On the other hand, Mrs. John Downie, Dorothy, and T. W. Girdlestone have never before been staged in as few stands. The only new variety on the list is Watchman, sent out in 1899, which was not shown in quite as many stands as at the previous exhibition.

Pompon Dahlias.

These tiny, little Shows and Fancies are always most fascinating, whether as they appear set up at an exhibition or as seen growing in the garden, on account of their perfection of form and the freedom with which the flowers are produced. There has always been a tendency to grow the blooms in this section too large, whereas the special charm consists in the refinement of their miniature flowers. By discouraging the exhibition of seedling varieties which are lacking in form or which are larger than they should be, the National Dahlia Society has, I consider, been largely instrumental in bringing this type of Dahlia to its present state of perfection. The number of flowers staged at the last exhibition was, with only two exceptions, larger than at any previous show the Society has yet held.

According to their averages for the last four exhibitions, the best varieties arrange themselves as follows: Bacchus, Nerissa, Tommy Keith, Emily Hopper, Douglas, Phoebe, Whisper, Ganymede, Sunny Daybreak, Captain Boyton, G. Brinckman, Dr. Jim, Demon,* Lilian, Madeline,* Arthur West, Snowflake,* Hypatia, Eurydice, Donovan, Vara,* The Duke,* Clarissa, Ernest Harper, Adrienne, and Rosebud. The varieties marked with an asterisk were sent out in 1899, or subsequently. For general cultivation the following varieties in their respective colours can again be confidently recommended: *White*, C. Brinckman; *yellow*, Sunny Daybreak, Clarissa, and Whisper; *orange*, Phoebe; *rose or pink*, Nerissa; *scarlet*, Bacchus; *crimson*, Arthur West; *maroon*, Douglas; *Fancy*, Tommy Keith.

Cactus Dahlias.

There is little need to say anything in the way of praise of the Cactus Dahlia in its present stage of development. I was going to add because its beauties are too well known, whereas the finest varieties in this section are known to comparatively few lovers of their gardens. And I do not think the reason of this need be far to seek. It is no doubt due to the fact that the true Cactus Dahlia is such a very recent creation of the florist, while the advances it has made the last few years, and is still making, have been so remarkably rapid, that even the Dahlia experts themselves find it difficult to keep in touch with all of them. This being the case, only those amateurs who have had their special attention directed to the modern Cactus Dahlia can be expected to keep pace with the various changes that are every year going on. In the following list the leading varieties will be found arranged according to the number of times they were staged at the last exhibition of the National Dahlia Society,

FANCY DAHLIAS.

Position in Present Analysis.	Average Number of Times Shown.	No. of Times Shown in 1901 in True Relative Proportion to the Average.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	20.6	27	Rev. J. B. M. Camm	1873	Keynes	Yellow and red
2	17.4	14	Duchess of Albany	1884	Turner	Orange and crimson
3	16.5	25	Mrs. Saunders	1872	Turner	Yellow and white
4	15.0	10	Mrs. John Downie	1889	Turner	Orange and scarlet
5	14.0	14	Goldsmith	1895	Keynes	Yellow, striped crimson
6	12.6	15	Matthew Campbell	1889	Keynes	Buff and crimson
7	11.5	7	Dorothy	1888	Keynes	Fawn and maroon
8	11.0	5	T. W. Girdlestone	1890	Keynes	Lilac and maroon
9	10.6	15	Emin Pasha	1894	Keynes	Yellow, striped crimson
9	10.6	7	Frank Pearce	1886	Rawlings ..	Rose, striped crimson
11	10.5	16	Buffalo Bill	1890	Keynes	Buff, striped vermillion
12	9.4	10	Peacock	1877	Turner	Maroon and white
13	8.7	14	S. Mortimer	1894	Mortimer	Rose, striped crimson
14	8.5	7	Watchman	1899	Keynes	Golden yellow, striped crimson
15	8.0	6	Rebecca	1883	Keynes	Lilac and crimson
16	7.0	12	Dandy	1891	Keynes	Orange, striped crimson
17	6.3	3	Comedian	1892	Keynes	Orange and crimson
18	5.5	6	Hercules	1877	Keynes	Yellow and crimson

and also, for comparison, their records, where available, for the two previous shows.

	1901	1900	1899	
1 Britannia, 1898	48	55	26	salmon pink and apricot
2 Uncle Tom, 1900.....	36	23	—	maroon
3 Mrs. J. J. Crowe, 1900	30	23	—	clear canary yellow
4 C. Woodbridge, 1897	29	47	25	crimson
5 Countess of Lonsdale, 1899	28	38	17	salmon and apricot
6 J. W. Wilkinson, 1901	25	—	—	rosy crimson
7 Lord Roberts, 1901.....	24	—	—	ivory white
7 Mrs. Carter Page, 1900....	24	26	—	deep crimson
9 Lucius, 1899.....	23	20	13	deep orange
9 Mary Service, 1898.....	23	42	23	russet and heliotrope
11 Viscountess Sherbrooke, 1899	19	26	9	reddish terra-cotta
12 Zephyr, 1900	18	18	—	bright rose pink
13 J. F. Hudson, 1899.....	17	20	—	reddish carmine
13 Magnificent, 1899	17	23	17	salmon pink and apricot
15 Galliard, 1901	15	—	—	crimson scarlet
15 Mayor Tuppeney, 1900	15	26	—	yellow, orange, and fawn
17 Stella, 1898	14	12	9	bright crimson
18 Emperor, 1900.....	13	15	—	velvety plum
18 Lyric, 1901	13	—	—	deep bronzy red
20 Vesta, 1901	12	—	—	pink
20 William Jowitt, 1900.....	12	8	—	scarlet
22 J. Weir Fife, 1901	11	—	—	deep crimson
22 Night, 1898	11	41	18	maroon
22 Rosine, 1901	11	—	—	rose
25 Ajax, 1900.....	10	7	—	orange and buff
25 Elsie, 1900	10	8	—	rose
25 Imperator, 1901	10	—	—	ruby crimson
25 The Clown, 1899.....	10	18	—	brick red, edged white
25 William Treseder, 1900....	10	9	—	blush white
30 Cornucopia, 1900	9	10	—	deep reddish salmon
30 Laverstock Beauty, 1898 ..	9	24	8	soft red
30 Starfish, 1897	9	41	25	orange scarlet

Among the leading twelve varieties in the above list will be found six which appeared in the first dozen in the same list last year, the absentees being Night, Starfish, Keynes' White, Mayor Tuppeney, Laverstock Beauty, and Magnificent. Only a few years ago such a comparison would not have been possible owing to the extremely fleeting reputations of nearly all the varieties then shown. The greatest changes are to be found in the positions now occupied by the following sorts compared with those they took up last year. For instance, Night, having been superseded by Uncle Tom, falls from No. 4 to No. 22; Starfish from No. 4 to No. 30; while Keynes' White from No. 7 has fallen out of the list altogether, the variety last named having been superseded by Lord Roberts. The following have also this year entirely disappeared from the table; Mrs. A. Peart, Radiance, Cinderella, Fusilier, Island Queen, Arachne, Maurice S. Walsh, Mrs. J. Goddard, Innovation, and Loyalty. On the other hand, certain varieties sent out in 1900 which were not placed at all last year appear in this year's list. For instance, William Jowitt, Ajax, Elsie, and William Treseder. Arranging the 1901 varieties according to their respective positions, they come out as follows: J. W. Wilkinson, Lord Roberts, Galliard, Lyric, Vesta, J. Weir Fife, Rosine, and Imperator.

Placed according to their colours—which, as I stated last year, is by no means an easy task, as there are often several different tints in the same flower—they come out as follows: *White*, Lord Roberts and William Treseder; *yellow*, Mrs. J. J. Crowe; *pink and rose*, Zephyr, Vesta, Rosine, and Elsie; *scarlet*, William Jowitt and Starfish; *crimson*, C. Woodbridge, J. W. Wilkinson, Mrs. Carter Page, J. F. Hudson, Galliard, Stella, J. Weir Fife, and Imperator; *purple*, Emperor; *maroon*, Uncle Tom and Night; *various shades of red, salmon, apricot, &c.*, Britannia, Countess of Lonsdale, Lucius, Mary Service, Viscountess Sherbrooke, Magnificent, Mayor Tuppeney, Lyric, Ajax, Cornucopia, and Laverstock Beauty; *Fancy*, The Clown.

For those amateur exhibitors who can afford to keep their collections strictly up to date, and also for the more numerous class who wish to add a few of the newest and choicest varieties every year to the sorts they already grow, I append a list of all the varieties certificated by the N.D.S. in 1901, viz.: Alpha, Aunt Chloe, Clara Stredwick, Clarence Webb, Clio, Columbia, Florence, Gabriel, Goldfinch, J. H. Jackson, Lilac, Miss Winchester, Mrs. Clarke, Mrs. De Luca, Mrs. Edward Mawley, Mrs. Freeman Thomas, Mrs. Hobart, Mrs. H. J. Jones, Mrs. C. Mortimer, Mrs. H. A. Needs, Mrs. A. F. Perkins, Mrs. Winstanley, Ophir, P. W. Tulloch, R. Needham, Ringdove, and Spotless Queen.

For general cultivation the following selection may prove useful, as in it I have endeavoured to select only varieties of good habit, which display their flowers well above the foliage, with little, if any, thinning of the shoots: *White*, Salisbury White, Keynes' White; *yellow*, Mrs. J. J. Crowe; *pink, salmon, and mauve*, Britannia, Countess of Lonsdale, Mary Service, Lucius, Exquisite, Magnificent, and Island Queen; *scarlet and crimson*, J. W. Wilkinson, Stella, C. Woodbridge, and Starfish; *maroon*, Night and Matchless.

Single Dahlias.

I am very pleased to note that the number of singles set up at the last exhibition exceeded that at any previous show, and my records for this section go back, at all events, twelve years, and in the early years of that period the singles were but very sparsely exhibited, so that there is little doubt that the 1901 record has never before been exceeded. The following varieties have been arranged according to the average number of times they were shown at the last three exhibitions: Polly Eccles, Victoria, Miss Roberts, Aurora, Leslie Seale,* Naomi Tighe, Miss Glasscock, The Bride, Northern Star, Girlie,* Peacock,* Tommy,* Duchess of Marlborough, Beauty's Eye, Formosa, Donna Casilda, Jack Sheppard, Demon, Phyllis, Puck,* Jeanette. The varieties marked with an asterisk are new varieties, those sent out in 1899 or subsequently.

I once more advocate the cultivation of the single-flowered kinds. They are the easiest of all Dahlias to grow, and if the following directions be only complied with they will remain in full flower until cut down by frost: 1. Grow only named varieties; 2. plant them 4ft apart; 3. remove every seed-pod once a week. I am enclosing a photograph of my bed of single Dahlias for the editor to see. It was taken last year on October 21, which clearly shows how full of flower the plants were, even at that late date in the season.

The following Selfs and Fancies I recommend for beginning a collection: Polly Eccles, Victoria, Aurora, Northern Star, Demon, Miss Roberts, The Bride, Beauty's Eye, Amos Perry, and Rosebank Cardinal.—E. M., Berkhamstead.

Fruit in Victoria.

The climate of Victoria enables every description of fruit—Apples, Pears, Peaches, Apricots, Grapes, Oranges and Lemons—to be grown in abundance. A very large area has been planted with orchards, especial attention being given to the production of the best varieties of Apples and Pears, suitable for export to England. The fruit season in Victoria, being exactly opposite to that of Europe, the United States, and Canada, these on being shipped arrive in Great Britain when they cannot be obtained largely from northern countries.

Fruit growers associations have been formed throughout the State to develop the export trade, and the Government, in order to promote the establishment of this on a large scale, and place it on a substantial footing, gives a bonus on the quantity exported. Careful attention is given by growers to the grading and packing of fruit, as they recognise the necessity of sending only that of best quality in the best possible condition. Owing to the large area under orchards, and the further extensive planting being carried on, a large yearly increase of fruit exportation will take place. Last year the value of the fruit exported from Victoria amounted to £33,608. In regard to Apples a standard size has been adopted by fruit growers, and none under this grade or having any blemish is exported. Already, Victorian Apples and Pears have made a reputation in British markets, their excellent quality and the care taken in their exportation receiving recognition. From the latter end of March until the beginning of June, weekly shipments arrive, and are sold for distribution at Covent Garden, London, and also at Liverpool. At these places fruit salesmen in Great Britain can obtain supplies.

Canned and Dried Fruits.

Apricots and Peaches grow to perfection in Victoria, large areas of these being under cultivation. With a view of exporting the abundant crops now gathered annually, extensive establishments have been erected for canning Apricots, Peaches, Pears and other fruits on the Californian system. The finest fruit only is used for this purpose, and an increasing export trade to South Africa, India, and the East is being developed. Last year's returns show that canned fruits to the value of £25,000 were exported from Victoria. The export trade in these to the United Kingdom is now receiving attention, and will be developed.

During the past four years regular shipments of Apricot and Raspberry pulp have been made from Victoria to the United Kingdom. The excellence of this pulp, in which only the best fruit is used, has led to its being utilised by high-class jam manufacturers, with the best results. The fruit pulp is shipped in sound condition, and with respect to Apricots, the two halves of each fruit (the stone being taken out) is as firm as if just pulled from the tree, and retains its original flavour. Shipments arrive during January and February, when supplies are short from other countries. If necessary the whole requirements of the United Kingdom could be readily supplied by Victoria.—J. M. SINCLAIR.

**Zygopetalum Schröderianum.**

The plant we place under its correct name, has been, and is, known to some as *Bollea Schröderiana*. The sepals and petals are pure white, with the exception of a faint blush tint at the edge, while the peculiarly formed lip is rosy-purple. The flowers are delightfully fragrant. In 1895 it received a First Class Certificate, when shown by Messrs. Sander and Sons. The plant is still scarce. It is a South American species, flowering at various times of the year, and requires a stove temperature.

The Week's Cultural Notes.

The section of Orchids such as *Bolleas*, *Pescatoreas*, *Warszewiczellas* and the like, are not as popular as they were, but most collections contain a few. Having no pseudo-bulbs to sustain them, the plants are naturally more prone to checks from various causes than most, and it is imperative that a very

**Zygopetalum Schröderianum.**

regular and moist temperature is kept up in the house wherein they are grown. Position has a lot to do with their success or otherwise, and the most likely place for them to succeed is under the shade of other plants rather than in a heavily shaded house.

I used to grow a fine batch of *Pescatoreas* in a house the roof of which was covered with a thick growth of *Stephanotis*, but which had no other shading, and here they did remarkably well in company with *Cœlogyne cristata* and others. If the compost has not yet been seen to no further time must be lost. None of this section like disturbance at the root, so do as little as possible consistent with a sweet compost. None of them relish much material about the roots, so let the materials be carefully chosen and so thinly placed that the roots may easily pass through it to the drainage.

Odontoglossum citrosum will be rapidly opening its flowers, and it is well to give the plants a thorough soaking of water just before the top blossoms begin to open, this preventing much water being required while in flower, and consequent spotting of the blossoms. Any plants not showing the spikes by now must not further be weakened by withholding water, but placed in a genial temperature, watered freely, and grown on with a view to a more successful flowering period next season. As the flowers

fade the plants must be top-dressed if needed, and they, too, placed without delay in their growing quarters.

As the season advances more water must be given to the majority of Orchids, and especially to those like *Calanthes*, *Thunias* and others, the new leads of which are growing and rooting freely. In the warmest section, where these and *Dendrobiums*, *Aërides*, *Vandas* of sorts, and Old World kinds generally are grown, the most must be made of bright sunny days by shutting up early in the afternoon with ample moisture and lifting the shading, the sun causing a very suitable quickened atmosphere congenial to these heat-loving Orchids.—H. R. R.

Abnormal Cypripedium.

Mr. Douglas brought a flower of a hybrid variety to the Scientific Committee's meeting on the 8th ult., in which the lip, instead of forming a pouch, was divided into three portions, a basal portion concave and trough-like, green, marked with small purplish dots; an anterior portion raised and hump-like, striped with dark brownish purple on an olive-coloured ground. On either side of this was a wide, oblong, projecting wing. The column was normal.

New Cactus Dahlias.

Year by year the Cactus Dahlia gains admirers, and were it not for the fact that the *Chrysanthemum* flowers, as it does, in the damp and dreary autumn, Dahlias would threaten to become a very serious and formidable rival. This is, however, avoided by the different times of flowering, and, far from the two great autumn royalties rivalling one another for the greater popularity, they follow on in their blooming to such a nicety, that we can turn our face from the last draggled and bruised Dahlia bloom and go indoors to watch the opening buds of the *Chrysanthemum*. This being so, it is no wonder that nurserymen and florists generally are turning their attention to the Cactus Dahlia, all being attracted by the increasing attention that is given to this particular branch of the varied Dahlia family by large and small flower growers alike. We know of no other flower at the present time that is so constantly changing its "ideal" of perfection, or so steadily improving, as the Cactus Dahlia is, and has been during the last ten years. To such an extent do the forms of the many first class flowers now differ that they can be split up into several almost distinct sections, each having its admirers, and each its own particular charm and beauty; and, although several we have spoken to seem to deplore this tendency, and would much prefer a hard and fast rule by which to reckon up the points of the Cactus varieties, by far the larger number agree that it is one of the best and most beautiful features of the family. Certainly, in our opinion, it is one of the most pleasing traits in the many that the Cactus Dahlia can lay claim to, as it keeps it from becoming a flower that one view of suffices, as in the case of double varieties.

It is very natural that a flower which is becoming such a necessary adjunct to every garden worthy of the name should be raised in tremendous numbers from seed every year, and so each season sees a long list of new varieties. It is of these that a few notes are here given, as many readers of these columns are just now considering the advisability of laying in a stock of the new sorts for 1902. Here we might mention that so fast is the upward movement of this flower, and so anxious are the votaries of it to possess the best, that if the up-to-date florist does not purchase the novelties the first season he is always in a state of "second rabidness" (if such a term may be applied); but as very few can afford to buy a complete set right through, we give a few of the very best varieties from the several chief raisers.

Before giving details of these, however, a few words will probably interest growers as to one or two more or less distinct types noticed last autumn. Amongst these were at least two with somewhat short, yet numerous, petals, wider at the base than usual, but very incurved and pointed at the tips, so that in looking at the bloom all the little open ends of the petals were visible. The type was certainly pretty, and the variety most strikingly representing. It was Mars, a crimson-coloured flower. Last autumn, too, a most decided "break" was introduced in Alpha, which is a Fancy Cactus, being white speckled, spotted and striped with crimson and lilac, and which roused considerable speculation amongst Dahlia men as to a probable future family of Fancies. The flower was of good Cactus form, and was certainly an interesting addition.

Amongst very incurved varieties were the following (and this section has probably the largest number of followers):—Clio, an exceedingly fine petalled flower, with an abundance of florets reminding one of Starfish; Goldfinch, of perfect form and fine petals, yellowish colour, with the unopened centre tinted pink,

and very regularly incurved; Mrs. Ed. Mawley, the coming yellow, having lovely petals, incurving and narrow; Clarence Webb, reddish colour lighted up at the base with yellow, very attractive; Gabriel, crimson and white, a very beautiful flower, and much incurved in the petal.

Last season, too, was unusually prolific in bicoloured varieties. Those we liked best were Mrs. H. J. Jones, one of the best; Gabriel, named above; Columbia, very nice; Richard Dean, distinctly tipped with white; Ringdove, a variety, which shades off from dove colour to white so gradually that there is no definite distinction between the two colours. Two very dark varieties were introduced, and a great contrast one to the other. These were Aunt Chloe and J. H. Jackson, both almost black. Aunt Chloe was fair sized, refined in the petal, and glossy in its blackness; and J. H. Jackson very large, somewhat heavy at the base of petals.

Scarlets, including reds of all sorts, were represented, and were very fine in the following: Miss Winchester and Mrs. Winstanley, both worth getting; and a very fine salmon, with the longest of fine petals, was Clara Stredwick. One pure white and most valuable for florists, was Spotless Queen, a branch of which that we saw exhibited, a fine erect habit. Orange colours were represented in Mrs. Hobart and Mrs. McKergow, and one or two beautifully blended colours: In P. W. Tulloch, an irregular incurved petalled flower, and Ophir, very pretty; while John Burns, purplish crimson, was several times noted.

In giving this selection it must not be supposed that we have included absolutely every flower worth having of the year. This would be impossible until after all had been grown and weeded out, and, in fact, several others we saw that, although, owing to the number entered, they did not receive so high awards, were yet good, and for their respective uses amongst the best. One or two of these were Arab, Khaki (very large), and Sailor Prince. Each year there is some move towards the introduction of a section of Pompon Cactus, but as yet, notwithstanding several having been introduced, no really Pompon flowers have been raised. There is little doubt that the near future will see much greater strides in this branch, and when flowers which come small naturally, and have tiny pointed petals, they will be much appreciated.

The last two or three summers have been very misleading, owing to the drought, many seedlings exhibiting very miniature blossoms, which, when grown in more favourable circumstances, filled out to the usual size. There are one or two this year, amongst which is Nana, which was very small and of good form, and Freedom, both crimson scarlet in colour. This brief review of a few of the very finest we do not pledge to be infallible, but, as far as can be judged from the blooms seen, it embraces the cream of the new Cactus Dahlias of 1902.—OLD GROWER.

The Fruit Supply of These Islands.

What an unlooked for pleasure the Journal of April 3 contained! I shall certainly not be singular in my wish to express most earnest appreciation of the article over the well known, but nowadays seldom seen, *nom de plume*, "Herefordshire Incumbent." Many articles have I read in days gone by emanating from this writer, yet with none can I remember to have been in closer agreement than this last. The subject is one which has been discussed in print and out of print, by fruit growers, and by those who know nothing whatever about fruit, and so far it appears with but poor results. Of what avail is it to go over and over again the old story of the obstacles that undoubtedly exist in the way of fruit culture on a large scale? Heavy freight rates, insecurity of land tenure, the impossibility of obtaining land of a satisfactory character in suitable localities. The labour difficulty is a serious matter which was not touched on by the reverend contributor; yet this is a real trouble in some districts, and cannot possibly be ignored.

In past seasons of glut there have been instances where growers have been compelled to allow fruit to rot, preferably to gathering and consigning, owing to labour expenses added to heavy carriage rates. Here there appears to be a special call for the introduction of fruit-drying apparatus of up-to-date capacity. Set up in fruit-growing districts on some co-operative principle, these might be a powerful means for good, to say nothing of profit. But even here the way cannot be rushed over in a violent hurry. Proof must come from small experiments, conducted in a business-like manner, before anything of an expensive nature can be carried out in this direction. Let us turn back to one of the not insurmountable obstacles—that of freight rates. This matter has been wrangled over many times, and I fear we are in much the same position we were years ago. In the able article of which I have already spoken, there is the suggestion of the

possibility of government administration of railways. This might certainly make a vast amount of difference, but I must confess there is small expectation on my part of ever seeing it come to pass.

There is no doubt that agitation and discussion have done something towards furthering the cause of fruit culture during the past few years. We have only to witness the various benefits cited. County Councils in various parts of the country do what can be done as far as their means allow. But can they procure land? Of course not to any extent. And in all cases with which I am acquainted the work that is being done is carried out on land held by them upon a short tenancy. Scholarships, yes! And what have these done in extending the planting and marketing of fruit? Lectures, too! These may have helped to stay the influx of foreign fruit; it is scarcely likely they would! Nor do I suppose they were ever expected to do so to any great extent. Well may the writer on page 290 exclaim "The ball rolls slowly!"

Occasionally there are evolved from the Board of Trade certain leaflets of a highly technical nature. I have no desire to be ungrateful, but these appear to me little more than a rehash (as to their contents), of remedies and methods of procedure frequently previously met with in horticultural journals. If this is the outcome of years of agitating by growers and writers (because apart from County Council schemes I can discover nothing else) from successive governments, surely I shall not be charged with undue pessimism if I look askance, not to say with awe, upon even a hint of any hope of governmental management of railways. Something nearer home occurs to mind at this moment. Recently visiting a noted Midland holiday resort, I noticed a dish of Apples placarded "Real English" in one of the fruiterers' windows. These were ruddy cheeked American Baldwins if any were ever seen in this world; after travelling hundreds of miles by rail and thousands by sea, there they lay competing with good honest British produce. Amongst the crowds of folks in the street how many would know the origin of these mealy insided impostors? I failed to ask the price, but one cannot help wondering what the returns to the grower can be after all the costs of transit have been provided.

I know perfectly well, so do numbers of others, that this is but ploughing up old ground. The repetition of ancient grievances to be met as in times past with owl-like cries of "vested interests," or the sacredness of property. But what of these in the face of a leakage of millions of pounds out of this country, which in great part might be stopped? What are "vested interests" compared with the right of a people to be supplied at reasonable terms with wholesome food? Something can surely be done to bring to the poor of our large towns and cities more of the joyous benefits of Nature. Is there no way of escaping market tolls and commission agents' fees, which are such a tax on low priced products, in times of excessive plenty, so that not only the grower may be rewarded for bounteous crops but the lowly customer also?

Influences must surely in time make themselves felt, and help in the extension of what might prove a national blessing. The R.H.S., with its continually increasing roll of members, and its improving financial resources, could, doubtless, bring great forces to bear upon this question. Private enterprise has done much. We have only to witness a report that the returns quoted from a certain fruit farm in Bedfordshire have been set down at £50 to £80 per acre. If this can be verified, antiquated land systems ought not to be allowed to block the way for far-reaching efforts. Five great essentials appear to be required before this great unnecessary outpouring of money can be checked.

Business aptitude, cultural knowledge, capital. These three can, no doubt, be found, and would be found without loss of time. Cheap but quick of transit from the fruit growing districts to the thickly populated centres; and last of all, though it perhaps should have been first set down, land; yes! the land! Here is the greatest essential of all, for without this the others are as nothing. Here is the crux of the whole question. We have, as stated, three of the requirements needful for success. The freight trouble will doubtless in time be righted. Then let the growers who desire it have the land at equitable rates, and upon reasonable holding terms. Until these things are conceded there may be hope, there may be mighty pullings together, endless discussion which I trust will not now cease, but there can be no really successful extension of fruit culture in its broadest sense in this country.—J. W., Hopton Hall Gardens.

Specimen Bush of a Show Dahlia.

The specimen Show Dahlia illustrated on another page this week is not without interest. As a specimen it must have gratified the heart of the grower. The method of protecting the blooms may be useful as a hint to beginners. The Shows and the Fancies are not quite forgotten even in these days, but perhaps such robust specimens as the one shown are not now common.



Specimen Bush of a Show Dahlia, showing how the Blooms are Protected.

NOTES & NOTICES

Mr. Mawley and his Dahlias.

The picture on page 409 so well speaks for itself that words are superfluous. Mr. Edward Mawley is depicted on the left viewing one of his own productions in the form of a seedling single Dahlia; the gentleman on the right is a friend of his. Mr. Mawley prepares the Dahlia and the Rose analysis for this Journal, and is an active member of the National Dahlia, National Rose, Royal Meteorological and other Societies.

Show of Western Australia Produce.

The persons who are Imperialistic, and who take an active interest in the progress of the British colonies, will learn with pleasure and pride of the success of the second annual national show of produce from the Western Australia districts, which was held on the 6th of March, at Perth. The exhibition was an undoubted success, having 1,015 entries, and included cereals, Melons, Pumpkins, Tomatoes, Gourds, &c. The Governor of the State performed the opening ceremony.

Royal National Tulip Society.

The ninth annual Southern Exhibition of the above Society will be held under the auspices of the Royal Horticultural Society, on Tuesday, May 20, 1902, in the Drill Hall, Buckingham Gate, Westminster. The exhibition will be open to the public at 2 p.m. Members of the Royal National Tulip Society admitted by ticket, to be obtained from A. D. Hall, The College, Wye, Kent. At 3 p.m. a lecture will be given on "The Origin and Properties of the English Tulip," by A. D. Hall.

Rhododendrons in Queen's Park, Glasgow.

A fine specimen of the *Rhododendron Nuttallii* is at present showing five trusses of flower of seven blossoms each. It is a beautiful sight, and one which is not come in contact with every day. Countess of Haddington is quite common here, and although some of them were almost past, it could be easily seen how freely they had been flowering. *Thomsoni* x *Griffithi* is just a mass of flower. In the early stage of the flower the colour is dark red; as it opens out it turns light red, and is quite a treat. *Veitchianum laevigatum* x *Edgeworthi* is also flowering very freely. This is one of the recently certificated *Rhododendrons*. There are also many other good seedlings in flower, and altogether the *Rhododendrons* in the Camphill houses are in first-class order, and are well worth a visit.—A. B.

British Forestry Inquiry.

At the first sitting of the Departmental Committee of the Board of Agriculture appointed to inquire into the present position and future prospects of forestry, and the planting and management of woodlands in Great Britain, Mr. S. Margerison, of Calverley, in his evidence, expressed the opinion that Continental foresters grew much larger crops of timber on similar areas than do British growers. From his own experience in North Germany he knew that the trees were larger, straighter, and freer from knots and other defects than ours generally were, more attention being paid to systematic and scientific forestry than in this country. He was of opinion that a very large proportion of the timber now imported from other countries could, with proper management, be properly grown at home. Few foreign countries, however, could grow Oak equal to British in size, strength, wearing and lasting qualities combined. As an experiment, six railway wagons had been built with a framework of British Oak, and six with a framework of foreign Oak, for exactly identical purposes. By the time the British timber wagons came in for repair the others were quite worn out. On the question of railway rates, Mr. Margerison said that where a ton of corn would cost 5 per cent. of its selling value in transport a ton of timber cost 60 per cent. A ton of spruce from Canada would not cost any more than—if as much as—a ton of spruce from the Yorkshire hills to the Yorkshire coal mines. Preferential rates were costing timber growers as much as the rental value of the lands the timber grew on.

Dudley Flower Show.

The first horticultural exhibition and honey show in connection with the Dudley Horticultural Society will be held at Dudley on Wednesday and Thursday, August 13 and 14, 1902. The hon. secretary is Mr. H. Dickinson, Sunnyside, Dudley.

Early Gooseberries.

The first package of this season's growth of English Gooseberries cultivated in the neighbourhood of Penzance was despatched to the London market on April 30. Gooseberry picking from trees grown in the open commenced around Penzance this week.

Sidcup Coronation Rose Show.

On Thursday, July 3, the rosarians of Sidcup have arranged to celebrate the greatest function of the year by holding a special Rose show, and grand gymkhana. The hon. secretary is Mr. Tyson Crawford, Arundel Lodge, Sidcup.

Death of Mr. Lindley Cowan.

The death of Mr. L. Lindley-Cowan, late Secretary of the Department of Western Australia, is announced from Perth. Mr. Cowan, by his example, his lectures, and his press writings, helped enormously to extend the interest in West Australian Vine and other fruit growing. He died at the early age of 44, leaving a widow and one daughter.

Midland Daffodil Show.

Our representative in his report of the Midland Daffodil Show, held at Edgbaston, on April 24 and 25, omitted to mention Mr. H. J. Jones' group which contained a selection of *Narcissi* in all the sections. We believe this is the first occasion on which Mr. Jones has ventured to Birmingham with Daffodils and other spring flowers, and speaks well for his success in the bulb venture as a department of his business.

Cambridge Horticultural Society.

Situated in a good district, and having been long established, the Cambridge Horticultural Society's shows are generally very successful. The date for the June exhibition this year is fixed for the 10th, and numerous special prizes are being offered. The Chrysanthemum show is arranged for November 5 and 6. Fuller particulars will, no doubt, be advertised by the secretary in our pages in due course.

Scottish Foresters to Visit Sweden.

At a recent meeting of the council of the Scottish Arboricultural Association Mr. D. P. Laird, the convener of the excursion committee, explained that negotiations had taken place with regard to the proposed trip to Scandinavia this summer. He mentioned that the society had obtained, through the Foreign Office, programmes for tours in Norway and Sweden. He was afraid it would be impossible to carry out the Norwegian tour, owing to their inability to obtain a special steamer for the necessary fortnight; but the tour in Sweden was a very attractive one, and he hoped they would be able to carry it out. The matter was remitted to the excursion committee with powers. The selection of Mr. Donald Robertson, forester to the Duke of Sutherland, at Dunrobin, to give evidence on behalf of the society at the Forestry Inquiry, now taking place in London, was approved of.

Ipswich Mutual Improvement Society.

On Thursday, May 1, a meeting of the above society was held in the Co-operative Hall, Mr. C. H. Shipton presiding over a large attendance. The subject for the evening was a lecture by Mr. F. Shrivell, F.L.S., of Tonbridge, Kent, on "The Use and Value of Chemical Manures in the Fruit and Kitchen Gardens." In a chatty and interesting manner, enlivened by many humorous touches, the lecturer first spoke of the value of farmyard manure for improving the mechanical condition of the soil, and then considered the properties of various organic manures. Passing thence to the more important chemical plant foods, Mr. Shrivell gave many hints on their application to fruit and vegetable crops, illustrating his remarks by the aid of a case of samples of manures (presented to the society by Messrs. Packard and Co., of Ipswich), which he congratulated them on possessing. At the conclusion of the meeting a hearty vote of thanks was accorded Mr. Shrivell on the proposition of Mr. Messenger, supported by Mr. Morgan.—E. C.

A Double Lily.

The Florists' Exchange, America, recently figured a double-flowered *Lilium longiflorum*. It was said to be "a beautiful flower, and rivalled the finest forms of the night-blooming *Cereus*."

Weather in the North.

On the night of the 2nd inst. there were 4deg of frost, and the ground was covered with dense rime on the following morning. On Monday the surrounding hills were grey with a slight snowfall, and generally throughout the past week there has been ungenial, although bright weather.—B. D., S. Perthshire.

Appointment.

Mr. F. Whieker, for eight years gardener to the late H. C. Jobson, Esq., Summer Hill House, Kidderminster, as head gardener to B. J. H. Forder, Esq., Everton Grange, Lymington, Hants. * * Mr. Robert Philips, late of the Botanic Gardens, Glasgow, sails for South Africa on the 24th inst., having secured a gardening appointment at Johannesburg.

The Dulwich Chrysanthemum Society.

The (1902) schedule of this Society shows that the committee have made numerous additions to the prize list, and also added considerably to its value. The show will last for three days instead of two; the balance-sheet (showing a credit of £40 19s.) speaks for itself. The Hon. Secretary is C. A. Young, 319, Crystal Palace Road, East Dulwich.

Correction Regarding a New Daffodil.

We should esteem it a favour if you would kindly announce in your Journal that the large pale trumpet Daffodil seedling which we exhibited on April 22, at the R.H.S. Meeting under the name of Queen Alexandra, and which was noted as such by your reporter, had the name changed afterwards to Queen Christina by the Narcissus Committee, who gave it an Award of Merit under this latter name.—BARR AND SONS.

Visit of Agriculturists to Hungary.

In order to give agriculturists an opportunity of studying farming and agricultural organizations in Hungary, arrangements have been made by the Essex Technical Instruction Committee for a visit of a party to that country. Leaving London (Holborn Viaduct Station) at 9.25 a.m. on Friday morning, May 16, the party will travel direct to Vienna, via Queenborough, Flushing, Hanover, and Breslau. Sunday will be spent in Vienna, and the following fortnight will be devoted to excursions in Hungary. All further particulars can be obtained from Mr. T. S. Dymond, County Technical Laboratories, Chelmsford.

Scottish Horticultural Association.

The dinner to celebrate the twenty-fifth year of the existence of the society was a great success. It took place on the night of March 21. The chairman of the evening, who is also the president of the society, was Mr. Charles Comfort, a gardener in a situation near Edinburgh, a ready and forcible speaker, the poetic and imaginative faculties being most active in him; Mr. Comfort made a truly admirable chairman. The dinner was typically Scotch, the menu was truly so. Round the tables could be seen the representatives of the leading seed and nursery houses and a large number of gardeners. As I sat and listened to speaker after speaker I thought what a great advantage it would be if the men who are at the head of some of the special floricultural societies in the metropolis were such as these businesslike and able Scotchmen. I think that in the Scottish Horticultural Association there must be an entire absence of any of those miserable personal jealousies and recriminations which are the bane of some of the special societies in London. Several invitations have been extended to southern horticulturists, but I was the only one who found himself able to be present, and I experienced the most cordial and welcome reception. Powerful and numerous as we are as a horticultural body in London, we have no organization answering to the Scottish Horticultural Association. This body holds every year an exhibition of Chrysanthemums in the Waverley Market. The chairman stated that the first exhibition was so poorly attended that the sum of 18s. 6d. only was taken at the doors. Now the sum of £600 represents the takings, and the charitable institutions of Edinburgh and the Gardeners' Orphan Fund in London receive a portion of the surplus.—R. DEAN (in "American Gardening.")

First Exhibition of Chrysanthemum Society of America.

The preliminary list of premiums offered by the Chrysanthemum Society of America, to be awarded at its first annual exhibition, and offered by the Horticultural Society of Chicago, to be awarded at the annual Fall exhibition, the exhibitions to be held jointly at Chicago in November next, has been issued. Copies may be obtained by addressing Edwin Lonsdale, Chestnut Hill, Pa., or E. A. Kanst, 5,700, Cottage Grove Avenue, Chicago.

April Weather at Belvoir Castle.

The prevailing direction of the wind was N.E. on eight days. The total rainfall was 1.95in (this fell on thirteen days), and is 0.15in above the average for the month. The greatest daily fall was 0.66in, on the 5th. Barometer (corrected and reduced): Highest reading, 30.377in, on the 7th, at 9 a.m.; lowest reading, 29.511in, on the 1st, at 9 a.m. Thermometers: Highest in the shade, 66deg, on the 19th; lowest, 24deg, on the 8th; mean of daily maxima, 52.90deg; mean of daily minima, 35.73deg; mean temperature of the month, 44.31deg; lowest on the grass, 20deg, on the 8th; highest in the sun, 115deg, on the 20th and 23rd; mean temperature of the earth at 3ft, 43.86deg. Total sunshine, 191 hours 10 minutes, which is 33 hours 34 minutes above the average for the month. There were three sunless days.—W. H. DIVERS.

Liverpool Amateur Gardeners.

The third monthly meeting of the session was held in the Common Hall, Hackins Hey, on May 1, Mr. J. D. McGregor presiding, in the absence of Mr. A. W. Jones. There was a very fair attendance of members, who brought exhibits quite up to the average, Mrs. Stevenson being the most prominent with cut Roses and miscellaneous flowers. Mr. Dodd, as usual, made a speciality of Orchids, notable being *Oneidium varicosum* Rogersi. Miss Davies exhibited the best gentleman's buttonhole, and Mr. Ellison Azaleas, other winners being Mrs. Morris and Mrs. McGregor. Mr. B. Ashton, gardener to Lord Lathom, Lathom House, Ormskirk, read a paper on "Some Useful and Ornamental Greenhouse Climbers," which had evidently been written to suit the tastes of enthusiastic amateurs, the remarks on the composts and varieties being eminently satisfactory. Touching the question of mildew, he advocated as the best remedy Bentley's sulphide of potassium. A brief discussion followed, in which the claims of the *Maréchal Niel*, *Cheshunt Hybrid*, *Niphetos*, and *Catherine Mermet* Roses were put forward as the best of their colours. Judging from the sums mentioned as having been made by the sale of blooms of the former, it is evident that there are many excellent cultivators in the Liverpool district. At the close new members were proposed, and a hearty vote of thanks accorded the lecturer.—R. P. R.

A Bulb Farm Near Edinburgh.

About sixty members of the Scottish Horticultural Association visited Mr. Glass's Nursery at Nether Liberton, situated near the terminus of the Newington Cable Car line, about two miles from the Post Office. Mr. Glass conducted the party over his grounds, explaining, comparing, and commenting on the different forms of Daffodils, as they came under notice. When I mention that Mr. Glass has the following varieties in quantities, thus:—*Horsfieldi*, 120,000; *Emperor*, 120,000; *Ornatus*, 500,000; *Sir Watkin*, 150,000; *Grandis*, 100,000; and many other varieties by their thousands, but in addition the following may be named:—*Bicolor Victoria* Madame Plomp, *Apricot*, J. B. M. Camm, *Gloria Mundi*, Mrs. L. Langtry, P. R. Barr, *Duchess of Westminster*, *Princess Mary*, C. J. Backhouse, *Golden Plover*, *Leeds*, *Golden Spur*, and many others that we had not time to notify. Mr. Glass has been engaged about thirteen years collecting and forming this unique and well chosen collection, and so far as the climate of Scotland and the ground of Nether Liberton are concerned, they are a complete success. There are many varieties not named, whose bulbs are as yet costly. These are undergoing trial, and though they may be considered as botanical gems, will find a corner in Mr. Glass's grounds for the sake of keeping hold of novelties. Yet the great feature of this well managed bulb farm is the cultivation of sorts that can be easily grown, profitably marketed, either as bulbs or blooms. Mr. Glass informs us that his grounds are open to the public, who at all times will be heartily welcomed.



Asystasia bella.

From Mr. J. Justice, Alvaston Hall Gardens, Nantwich, Cheshire, we received a well flowered shoot of this old-fashioned yet comparatively little known plant on Saturday last. The flowers are borne on terminal racemes; they are shaped very much like a *Salpiglossis*, but with flattened tube; the colour, pale lilac-lavender with purple veins. The foliage is dark green, shiny, smooth, and nearly oval, with sinuous edges. It is a splendid show shrub.

Foxgloves and Mulleins.

A place for these can always be found in gardens, for their best position is among the unkept shrubberies or fringes to the outskirts of the borders and lawns. At Syon House, Mr. Wythes has this year planted a large strip of half-shaded ground lying back from the kept lawns and among the trees, with a selection of Foxgloves, Mulleins, and, I believe, some Campanulas, and so much will such planting assist an otherwise uninteresting spot, that the suggestion is here conveyed that many other similar spots may be embellished in a like manner. The cost and trouble is as nothing compared with the returns in this case.

Fruit Production.

At a recent Nova Scotia Fruit Growers' meeting, Professor L. H. Bailey, of Cornell University, said that the fifteen years last past were marked by three distinct improvements in the methods of caring for orchards. The first was the introduction of spraying, which had now become so universal a practice that it was not thought necessary to advocate it at the meetings. The second was the tillage of orchards, and that was so well settled now that the farmers do not ask, "Shall we cultivate?" but "What are best methods for clay or sandy soil?" whichever the orchard was on. Now the prime question seems to be upon the use of a cover crop for the orchard, and he believed that within five years they would be discussing the merits of special cover crops for special soils. Where the soil is not in condition to grow better crops he would use Rye as a starter, and gradually work the soil up until it was rich enough to grow Crimson Clover, which he thought the best cover crop.

Carnation Mrs. Hemsley.

Among the tree or perpetual section of these favourite flowers, Mrs. Hemsley certainly claims a word of praise, not so much because of its desirable habit, but rather because of its freedom of growth, and the regular and continuous trait in flowering. No other variety I have grown continues so long to give flowers, which are large, richly coloured, and sweetly scented. The colour and character of the blooms remind one of a good type of *Uriah Pike*, a favourite with so many, because so suggestive of the good old garden *Clove*. The fault of Mrs. Hemsley, if fault it can be claimed to be, is that ordinary pot culture is not suited to its trailing character of growth. Our plants, which occupy pots, and are allowed to root through the bottoms unto a gravel-covered stage, occupy the end of a small span-roofed greenhouse, strained wires being used for tying them to as their advance needs it. From this position the weight of the buds causes them to depend, the shoots not being rigidly tied up. Hanging in this way, the growths shade the open flowers from sun, although occupying the sunny end of the house. Whether there would be a greater capacity for flower production under more liberal root treatment I have not proved, it being sufficient for my purpose to grow them thus restrained. There are but few weeks of the year when buds and open flowers are not available for buttonhole or other purposes; and, as Carnations play so important a part in this phase of floral work, the mention of so perpetual a variety may be useful to some of the Journal readers.—W. S. [From a liberal posy of splendid blooms of the above, sent to us by Mr. Strugnell, we were able to judge of its merits, which are satisfying in every respect.—ED.]

Violets.

Violet culture, as a trade, is becoming a pet hobby among the aristocracy. One of the latest to take up this method of money-making is Lady Aileen Wyndham-Quin, and, like her sister, Lady Rachel FitzGerald, who died last year, she is a famous Violet farmer, and has acres of almost every known variety in cultivation at Adare Manor, co. Limerick. She sells rooted plants at very low figures, and carries out her ideas in a very business-like manner. Mrs. Coghill (a daughter-in-law of Sir J. Joscelyn Coghill, of Glen Barrahan), is another noted "farmer," and the first to start this industry in the Emerald Isle.

Humus and Soil Moisture.

The following figures, taken from a report of the Minnesota Experiment Station, upon the effect of vegetable matter upon the water holding capacity of the soil, will show the importance of humus: "A new soil cultivated two years, and containing 3.35 per cent. of vegetable matter, showed 96.48 per cent. of water. A similar soil, which had been in tillage crops until its content of vegetable matter had been reduced to 2.5 per cent., contained at the same time only 12.14 per cent. of water, a difference of 1.15 quarts per cubic foot of soil. Other cases are reported in which soils with a normal amount of vegetable matter contained fully one-quarter more moisture than those in which this material had been allowed to burn out by constant tillage. Not only do the soils containing large quantities of vegetable matter contain more water, but they give off their water by evaporation more slowly than do those soils whose humus has been burned out. An experiment with the two soils above described, in which they have been exposed to the sun for ten hours after having been wet to the same degree, showed that the new soil, rich in vegetable matter, retained 6.12 per cent. of water, while the soil with its vegetable matter depleted, retained but 3.94 per cent., a difference of nearly a quart of water per cubic foot."

Nether Liberton Daffodil Nurseries.

In the latter end of April the members of the Scottish Horticultural Association, Edinburgh, by invitation, paid a visit to these grounds, and spent a very interesting afternoon in doing so. We call these Daffodil Nurseries, for, although the Messrs. Glass have to spare a sufficient space for the requirements of the carrying on of a large florist's business, the greater part of the eight acres or thereby are taken up by these delightful spring flowers. To visitors the above nurseries are of easy access from the General Post Office by a delightful twopenny car ride to Nether Liberton, one of the finest "runs" on our cable system. By this means one can step off at the terminus, which is within a hundred yards of the nursery gate. The grounds occupy a splendid position. Running east and west, they lie like a half-open book, and are intersected as nearly as may be in two by the Braid burn, which runs right through them, and as the main road runs parallel with the nurseries, and is very much higher, the effect, as seen from the road, is magnificent. When one observes what a luxuriant state of health, and what a gorgeous display can be got in a position such as this, fully exposed to all the winds that blow, no doubt need be entertained as to their hardiness; and, although the love for the Daffodils is certainly on the increase, one wonders why it does not grow more rapidly. Imagine, for instance, what a grand sight it is to see a break of 70,000 of that fine variety, *Barri conspicuus*, in full bloom, and that is what we saw the other day. Mr. J. Glass, who is in charge, grows of such varieties as *Horsfieldi* anything from 150,000 upwards, of *Grandis* over 100,000, *Sir Watkin* 150,000, *Emperor* 120,000 and so on. We cannot take up space by going into detail on the description and merits of individual kinds; suffice it to enumerate besides the above-named such fine varieties as *Albicans*, *Bicolor Empress*, *J. B. M. Camm*, *Golden Spur*, *Michael Foster*, *Maximus*, *Victoria*, &c., all of which are grown in large quantities. The earliest varieties are now nearly out of bloom, but the above-named are but a few out of many which we greatly admired; and anyone desirous of a collection would find these all pleasing. Amongst the newer and rarer kinds our attention was drawn to the following: *Corry Plomp*, *Fred Moore*, *Madame de Graaff*, *Madame Plomp*, *Apricot*, *Shakespeare*, *Gloria Mundi*, *John Davidson*, &c., all of which were splendid.—W. D.

Show and Pompon Dahlias.

The Dahlia, as represented by the massive rounded blooms seen at Dahlia exhibitions, is divided into two distinct types—the Show and the Fancy. Both are convenient terms, understood by Dahlia cultivators and exhibitors, but they are arbitrary and probably puzzling to those who are not aware of the general characteristics distinguishing the two. All self-coloured flowers—such as *Crimson King*, *Duke of Fife*, *John Hieklings*, and *John Walker*; such shaded flowers as *Mand Fellows*, *Prince Bismarek*, *Prince of Denmark*, and *Shirley Hibberd*; and such flowers as *Ethel Britton*, *Henry Walton*, *J. T. West*, and *Miss Cannell*, which have pale grounds with some edging of a darker colour to the petals—are classed as Show Dahlias.

Fancy Dahlias.

The Fancy Dahlia is a later form of the Show Dahlia, and the first of the type to be grown and improved originated with Count Lelieur, of Paris. Among his seedlings were some striped, flaked, and tipped single flowers, and from these, it is believed, came the originals of the Fancy type. They were slow in winning the favour of English growers, and when they did come into more general cultivation they—at that time small and inferior in outline—were grouped under the general head of "Fancy Dahlias," and found a place in schedules of prizes. In point of form and finish they have quite overtaken the Show varieties proper, and such Fancy Dahlias as *Comedian*, *Mr. John Downie*, *Frank Pearee*, and the *Rev. J. B. M. Camm* are models of form and symmetry when at their best. Of the many varieties of Dahlias figured in the "Annual Dahlia Register" of 1836—coloured figures which are in a very fine state of preservation in the present day—one Fancy only appears.

Fancy Dahlias are "tipped" rather than edged, because the order of the Show Dahlia is reversed, as a darker colour is at the bottom or ground, with a lighter one forming the tip. *Fanny Sturt*, red, tipped white; *Mrs. Saunders*, yellow, tipped white, are cases in point. All striped, flaked, and splashed flowers, whether tipped or not, are Fancy flowers, while it is difficult to accurately classify some varieties, as they partake to some extent of both the Show and Fancy character. Many of the Fancy Dahlias have the defect of running back to a self form, in which case the self flowers can be exhibited among the Show blooms. Fancy Dahlias should never be propagated from roots which produced run flowers the previous season, as they cannot be depended upon to come true to character. When the Fancy Dahlia was inferior in form to the Show type they were not exhibited together; but now that both types are represented by varieties which are models of form, they are now exhibited on the same boards, though a few classes are still reserved for true Fancies.

There are a few points in the cultivation of the Dahlia which

are worth attention. It is well to occasionally gently fork over the soil between the plants, taking care not to injure the roots in any way. A mulch of manure about the roots of the plants will be found in hot, drying weather to be a great conservator of moisture and coolness in the soil. In giving root waterings it is well not only to do it close to the stems of the plants, but to pour it on quite 2ft from it. It will be found of great assistance. Watering overhead through a fine rose watering pot will be of great advantage also, if done in the evening of hot, drying days. A close look-out should be kept for the ravages of any insects—the earwig especially. The old method of trapping them by means of an inverted flower pot at the top of the main stake is still one of the best means of capture resorted to. Shading of

the blooms—very closely in the case of flowers of a delicate tint—must be adopted in order to secure finely finished Show flowers. Disbudding must be regulated to a considerable extent by the nature of the variety. Those having a tendency to produce large and somewhat coarse blooms should be allowed to carry most of their flowers; those varieties which produce small blooms will need considerable disbudding to assist them in coming to the required sizes; but in regard to this matter, knowledge of the requirements of the variety is very necessary.

Pompon or Liliputian Dahlias.

Forty years or so ago Pompon Dahlias found no place in Dahlia catalogues, and it was not till after that period their merits as border flowers began to be recognised. In 1858, when the first of the large Dahlia exhibitions which gave rise to the National Dahlia Society was held in St. James's Hall, there was no class for Pompon Dahlias. The varieties at that time (mainly sorts introduced from the Continent) were very tall growers, while the flowers were only just commencing to take on the fine shape they did when the late Mr. Charles Turner commenced the work of improvement at the Royal Nursery, Slough.

The origin of the Pompon Dahlia dates from 1808. It was Hartwig, of Karlsruhe, who obtained it as a double form of *Dahlia coccinea*, which, when reproduced from seed, found great favour with the German florists, our English florists favouring the larger forms, from which have come our Show and Fancy Dahlias. The German florist who did most to improve the Pompon, or German Dahlias as they were then known, was Kœstritz, who was head gardener to the Elder Deegen, and by 1824 he was zealously at work raising and improving it.

Not only have the improvers of the Pompon Dahlia given us small symmetrically formed flowers, but the leading new varieties of the present day are dwarf in growth—averaging from 3ft to 4ft in height—while they are wonderfully floriferous, as it is possible to cut an armful of flowers from a plant at one time. For decorative purposes, in a cut state, no other type of Dahlia is its superior, and for garden decoration nothing representing the genus is its equal.—R. DEAN.



Mr. Mawley and his Seedling Single Dahlias. (See page 406.)



Leaf Curl in Peaches.

Can spraying with the Bordeaux mixture possibly do any good, now that this disease of the foliage is in full sway? I can imagine that spraying before the foliage is expanded may act as a preventive, but not how it can benefit the trees now. The curled leaves are useless, whatever the spray may do to them. But I should be glad of the opinion of experienced growers as to the best course, if any, to adopt with my Peach and Nectarine trees, which are badly affected. They were so last year; but this did not prevent them from growing well and producing plenty of new, ripe wood.—INEXPERIENCED.

Flower Show Reforms.

Having been for many years interested in flower shows, especially village shows, believing them, in spite of evils inherent to all things human, one of the very best things for a parish; I read "G. H. H.'s" notes (p. 333, April 17) with much interest. I cannot say that I agree with all his advances. Certainly, the visitors are a matter of very great moment, and to most shows a necessity of existence, still the great goal of exhibitors generally is the excellence of the exhibit itself, without extraneous aids. But, perhaps, I had better take the points as "G. H. H." puts them. First, then, the naming of exhibits. If correctness of [varietal] name is to be taken into consideration there will be a difficulty. This might be met by making the rule that the articles must be labelled with what the exhibitor believes to be their correct name. How frequently are amateurs supplied with articles different to those ordered. This is pardonable for instance, in Roses, where a whole batch of budded plants may be misnamed by the name having been carelessly knocked away during the autumn, and the accident subsequently unnoticed. But it is unpardonable in fruit trees, where each should be proved before sale. Take, for instance, my own case. I have at the present time two Pear trees wrongly named; a Nectarine the same, and a Vine was also furnished under a wrong name. The latter had to be replaced, but of course a year's growth was lost. I know few things more annoying to a small man than this, and if at the same time he is a novice, of course, he believes in the name, and must exhibit the article under a wrong name. I may be told to go to "a good house." Well, the house or firm these came from is a noted one. When judging on one occasion with the head gardener of one of the nobility, I asked him what he did under such circumstances. His reply was: "I should not go to that firm again;" but that does not mend matters, or name your tree correctly. Still, in spite of this difficulty, I think exhibits should be named, but I do not think that a wrong name should be a disqualification. It is, however, a trying thing to the cottager, in spite of the wonderful Board Schools. Then as to judges' responsibilities: They are already heavy, and before pointing each exhibit, which I agree is a capital idea, committees must have the tents cleared at the fixed time, and how many can manage this? Unless a show has somebody in authority, and with a pocket that will help the society under such circumstances, how many officials have the pluck to stand to their guns and disqualify those who are not ready? Every way, this "reform" is to be desired, and especially for the honest exhibitor who puts up his exhibits punctually and suffers often accordingly; but how many societies dare to do it? They are like the raisins in the old woman's pudding, one here and the other yonder. Much as this pointing is to be desired for educational advantage, it would so much increase the labours of the poor judges that more would certainly be required. Thirdly, the decorative side: There is one objection to this proposal at any rate, for cut flowers are what the judges have to judge, and these should be exhibited in similar glasses to put all exhibitors on the same level. If every exhibitor has to find his or her own, this means additional expense, possibly to some who cannot afford it. Then as to the addition of light greenery; this very possibly may, by the taste exhibitor, beat better flowers. Is this desirable to any great extent? [Why not judge by points in all such cases?—ED.] I believe the National Rose Society still makes the addition of even the Rose foliage a cause of disqualification. True, a departure has been made of late years in the so-called vase classes. The effect is pretty when backed by black velvet, but hitherto I have rarely seen in Roses any blooms thus exhibited that could be called

first class, and, moreover, this gives the exhibitor from a distance a heavy handicap, with possible breakage, because the tender mercies of a railway porter to all boxes, even if painted green, and carrying their use on their face, are sometimes cruel. Before could save them I once had one of my boxes seized by one handle and thus bundled out on the platform. I need not say that the contents were not improved in appearance! I think the exhibitor sticks to the objectionable show-board because there, after all, each bloom can be separately scanned to see both its form and general quality; it can be carried about for comparison, if need be, as for instance in settling the question of premier bloom, and also if it be a matter of decision whether two blooms of the same variety may have been accidentally or otherwise placed in the same stand. These matters could not be so well decided or detected, and they are often difficult enough if additional greenery has been added. I cannot think any experienced exhibitor would place Pansies or Carnations in stands fit for Japanese Chrysanthemums. Of course, the decorative idea is handicapping the cottager considerably, as it means the possession of decorative plants. All this may be an addition to the other attractions of the show, and being much admired by many, but I do not think the genuine enthusiast over this or that flower will go there to see his favourites in perfection. Lastly, the children's wild flowers: Yes, I should be very sorry to miss them; at the same time difficulties attach to it. I knew one show where the farmers complained bitterly of these prizes, on account of the damage done to their hedgerows. Then, supposing there are baskets of wild flowers to be set up by children themselves, unless a tent be provided for them under the eye of a committeeman, how are we to be certain that the children do set up the baskets? Certainly at one show, where for many years I was the hon. sec., we discovered that one woman used to make up many of the baskets. I believe the tent dodge has put a stop to this game. Personally, I am not very sanguine if they are told the botanical name that it will stick to them. I am more disposed to think that it will be my own experience. At the botanical lectures, which as a student I had to attend, the name of Brooklime (*Veronica beccabunga*) stuck to me; but alas! the plant did not. When asked the name of a plant, if ignorant, I jokingly replied with my favourite name, or coined a good long one for the purpose. Alas! one day on an excursion, a botanising relative found some of the plant, and applied among others to me. In an evil moment I coined a fresh word, but in the evening, an appeal to Withering had a withering effect on my botanical knowledge, and with roars of laughter, he exclaimed, "Why, he doesn't know his pet plant." I only hope the children may be wiser than—Y. B. A. Z.

Gardeners' Wages.

The following cutting, writes a correspondent, I send to you from an American gardening newspaper, believing that its tone may inspire hope in some quarters here:—"The comparatively low rate of wages paid gardeners and others engaged in the varied branches of horticulture has often caused surprise, more especially among those chiefly interested. There is no reason at all why the gardener should be rated below the mechanic; in fact, common justice would demand that his compensation should be higher. Yet, as a rule, it is below that of the mechanic. It is improving, but there are many gardeners to-day who are receiving less for the results of their years of application in mastering their business than the man who, with absolutely no previous application, takes a brush in hand and paints a house. Carpenters, and those of many other trades, do not need one-tenth of the training or intelligence of a gardener, yet they are better paid. A boss carpenter or painter sends a man to do a piece of work for a customer. He charges at the rate of about 3dols. per day for the man. Let a nurseryman charge the same for a man sent to do work requiring far more previous training and charge at the same rate, and there is an accusation of extortion at once. Various reasons come to mind for this state of affairs. The private gardeners heretofore have come to us from abroad, where wages are low, and moderate wages here seem high to them. Then the employers have not had the appreciation for horticulture they should have had, and one who really was no gardener passed muster because the employer was incapable of judging whether the applicant was competent or not. Better times seem really coming. Employers are not only wealthier, but they are taking far more interest in their places; and knowing more of horticulture they can better judge of the gardeners who come before them. This applies not only to the regular gardener, but to the landscape gardeners and their assistants called in for temporary work.

"The placing of the gardener on a higher plane, commensurate with his capabilities, is something that all interested in horticulture should join hands in working for. Let the day be past when the one who wields a paint brush can obtain higher pay for his day's work than the gardener, whose knowledge has been acquired by years of application and study."

A Gardener's Qualifications.

In "Notes and Notices" recently I read of a "Gardener's" qualifications, and have no doubt the paragraph I refer to would raise a smile in more than one garden. Will you believe, Mr. Editor, that it elicited numerous replies, some humorous, some very much otherwise? Had you but added the first line of address, viz., "John Hass," readers would at once have been able to see that the advertiser was having a little quiet fun; in fact, it was a company affair, and has afforded much amusement to the garden staff here. It was very much more fruitful in replies than the usual stereotyped "Life experience, inside and out, and all round man" advertisement. Being a gardener, I always scan the advertisements in *Journal of Horticulture*, which are food for thought very often, but less often consolation, and never amusement.—W. J.

The Bothy Plan.

As the originator of the bothy problem in another gardening paper, I am naturally interested in anything new on the subject. I see in this week's *Journal* (May 1, page 388) the conditions relative to the prize offered for the best plan for a bothy. Please excuse me for suggesting that I think a written description a more serviceable thing than an architectural design. First, because few gardeners are fully qualified to draw such plans, and still fewer able to draw out specifications. The result, therefore, will be that many intending competitors will probably get a regular architect to help in the business. The bothy is a moral nuisance; whether a palatial residence or a low, begrimed-walled lean-to hut, it matters little; and where it is in any way possible every effort ought to be made to reduce them, with a view to total extinction.—C. H. S.

[We have another letter on this subject from "Mac., Edinburgh," which arrived too late for insertion this week.]

The Uncut Journal.

I am glad to see in your issue of May 1 a reference to the trouble of having to cut the multitudinous pages of the "*Journal of the Royal Horticultural Society*." To a busy reviewer this is a perfect nuisance, and I have no doubt that it prevents many notices of articles that would be given if the publication could be glanced through without spending a valuable half-hour in cutting it. For my own part, I cut the *Journal* only where some heading attracts me, and probably the great majority of the readers do the same. To send out such a periodical uncut is to be much behind the times. I receive a good many similar publications from the several agricultural societies, but the "*Journal of the R.H.S.*" is the only one not machine cut.—A REVIEWER.

[The complaints in this connection are numerous. Surely the wishes of the Fellows might be consulted?—Ed.]

The Willow Wren.

From a correspondent, who uses the initials "H. R.," we received a small dead bird on Saturday last, and our friend, "W. G.," who loves the birds and all else, sends the following letter in regard to it:—"Re the small bird and tick forwarded by 'H. R., Kent.' The former was either a male or female willow wren (*Phylloscopus trochilus*), and which may be readily distinguished from the wood wren (*P. sibilatrix*) in being somewhat smaller. In colour the willow wren is the yellowest of the three species. The tick [which "H. R." thought might have killed the bird, being found firmly attached to the neck] much resembled the ordinary sheep tick, if, indeed, not that species; but it does not feed upon birds generally. It is difficult to account for the tick's attachment to the wren's neck when the latter was found dead, and still quite warm, by 'H. R., Kent.' The cause of the bird's death admits of considerable speculation. I do not think that the tick was altogether responsible for the death of the bird, though if attached to it for, say, several days, it might tend to affect its health. The willow wren is an early migrant, and therefore liable to be affected by the recent prevailing boisterous cold winds during its migration from a warmer clime, with the tick also attached to its neck. It may be interesting to add that two distinguished Birmingham ornithologists, in response to my inquiry, remarked that they never knew or heard of a tick becoming attached to any kind of bird before, though plenty of other parasites do become attached. There formerly existed also a certain degree of difficulty in distinguishing the comparative identity of the three above-mentioned warblers, an ingenious one being the measurement of the quill feathers in the wings, and which differ essentially one from the other. In Harting's edition of Gilbert White's "*History of Selborne*" there are illustrations of the wing feathers in question. Of course, these birds may also be readily distinguished by their respective notes, size, and colour of plumage.—W. G."

Societies.

The National Dahlia Society.

The report of the committee for the year 1901, which we have not previously given this year, and which has just been issued by that society, is as follows:—

"The past summer was again a trying season for Dahlias in the southern half of England, owing to the scanty rainfall, the great heat and dry atmosphere that prevailed during the day-time in July. For the fifth consecutive season exceptional drought has been experienced. The few days immediately preceding the exhibition were marked by high winds, which did much damage to the blooms of many growers and made it most difficult to secure specimens of the single varieties.

"The annual exhibition, held at the Crystal Palace, on September 6 and 7, was one of the largest in the history of the society; a magnificent display of all sections of the Dahlia being produced. Omitting the blooms submitted for certificates, and those staged "Not for Competition," the number of Shows and Fancies taken together was 1,416, an increase as compared with the previous exhibition of 114; of Pompons 1,992, an increase of 84; of Cactus 2,463, a decrease of 162; of Singles 1,452, an increase of 240; making a total of 7,323 blooms, an increase of 276. Twenty-two certificates were awarded to new Dahlias on this occasion. On September 24, a meeting was held at the Drill Hall, Westminster, in conjunction with the fortnightly meeting of the Royal Horticultural Society, when nineteen certificates were awarded to new varieties.

"The committee desire to convey their best thanks to the donors of special prizes, viz., The President, Mr. F. W. Fellowes, Messrs. Keynes, Williams, and Co., Messrs. J. Cheal and Sons, Messrs. J. Burrell and Co., Mr. J. Stredwick, Mr. S. Mortimer, Mr. A. Dean, Mr. R. Dean, Mr. T. Hobbs, also to the Horticultural Club for kindly allowing the society's meetings to be held in the club room. The list of Cactus Dahlias that has been published annually by the society for some years will not in future be issued, as the society considers that such a list is no longer necessary.

"The arrangements made with the Crystal Palace Company the last two years having proved far from satisfactory, the committee have decided to hold the exhibition in 1902 in conjunction with the Royal Horticultural Society, in their exhibition hall at Buckingham Gate, Westminster. Their thanks are due to the President and Council of the Royal Horticultural Society for granting the society this privilege, and also for placing their staff of assistants at the service of the committee on the show days. In order that this new venture may prove in every way a success, the committee request the kind co-operation of the members in making the exhibition generally known among their friends, and by inducing new members to join the society.

"First Class Certificates have been awarded in 1901 to the following new Dahlias:—SHOW: Merlin, Mr. C. Turner; Standard, Mr. G. St. P. Harris. FANCY: Mariner, Mr. G. St. P. Harris. POMPON: Crusoe, Messrs. J. Cheal and Sons; Dinah, Mr. J. T. West; Florizel, Mr. C. Turner; Mrs. Harris, Mr. F. W. Seale; Montague Wootton, Mr. C. Turner. CACTUS: Alpha, Mr. J. Stredwick; Aunt Chloe, Mr. J. Stredwick; Clara Stedwick, Mr. J. Stedwick; Clarence Webb, Messrs. Keynes, Williams, and Co.; Clio, Messrs. J. Burrell and Co.; Columbia, Messrs. Keynes, Williams, and Co.; Florence, Mr. J. Stredwick; Gabriel, Messrs. Keynes, Williams, and Co.; Goldfinch, Mr. J. Stredwick; J. H. Jackson, Messrs. Vernon and Barnard; Lilac, Mr. J. Stredwick; Miss Winchester, Mr. J. T. West; Mrs. Clarke, Messrs. Keynes, Williams, and Co.; Mrs. De Luca, Messrs. Cheal and Sons; Mrs. Edward Mawley, Messrs. J. Burrell and Co.; Mrs. Freeman Thomas, Mr. J. Stredwick; Mrs. Hobart, Messrs. J. Cheal and Sons; Mrs. H. J. Jones, Mr. J. T. West; Mrs. C. Mortimer, Messrs. J. Cheal and Sons; Mrs. H. A. Needs, Mr. W. Baxter; Mrs. A. F. Perkins, Messrs. J. Cheal and Sons; Mrs. Winstanley, Mr. J. Stredwick; Ophir, Messrs. Keynes, Williams, and Co.; P. W. Tullock, Mr. J. Stredwick; R. Needham, Mr. W. Treseder; Ringdove, Messrs. Keynes, Williams, and Co.; Spotless Queen, Mr. J. T. West. SINGLES: Beauty of Sevenoaks, Mr. F. W. Seale; Cronje, Mr. W. Parrot; De Wet, Mr. W. Parrott; Madge, Messrs. J. Cheal and Sons; Maid of Athens, Mr. F. W. Seale; Sylvia, Mr. E. Mawley.

"FINANCIAL STATEMENT.—The income of the society from all sources, including the balance of £6 10s. 5d. in the society's favour from the year 1900, amounted to £222 17s. 11d.; and the entire expenditure, including the payment of all prizes awarded at the exhibition, amounted to £219 18s. 9d., leaving a balance in the treasurer's hands of £2 19s. 2d.

"ARRANGEMENTS FOR 1902.—The annual exhibition will be held at the Drill Hall, Buckingham Gate, Westminster, S.W., on Tuesday and Wednesday, September 2 and 3. A committee meeting will be held, also at the Drill Hall, on Tuesday, September 23, for the purpose of awarding Certificates to seedling



Cactus Dahlia, Alpha.

See "New Cactus Dahlias," page 403.

Dahlias. Entries will be received by the Hon. Secretary, at the Drill Hall, before 11.30 a.m., on the morning of the Show."

Mr. J. Hudson, M.A., Gunnersbury House, Acton, W., is hon. secretary.

Royal Horticultural—Drill Hall, May 6th.

The cold and disagreeable weather that has lately prevailed was quite against a fuller show than was to be seen last Tuesday. There was a varied representation, nevertheless.

Floral Committee.

Present: W. Marshall, Esq. (in the chair); with Messrs. Ed. Mawley, Harry Turner, Chas. T. Druery, Geo. Nicholson, R. Dean, J. F. McLeod, J. Jennings, Jas. Hudson, Wm. Howe, J. A. Nix, C. R. Fielder, Chas. Dixon, R. M. Wallace, H. J. Cutbush, Chas. Jefferies, Chas. E. Pearson, Chas. E. Shea, H. J. Jones, W. P. Thomson, E. H. Jenkins, Wm. J. James, Geo. Paul, R. C. Notcutt, and J. Fraser.

Messrs. James Veitch and Sons, Limited, Chelsea, had Tulips, Narcissi, Wallflowers, double Cherries, and a group of *Primula japonica*. These were each extensive and, as usual, select. The *Primula japonica*s were as even as could possibly be, stout in flower and foliage. This is a worthy hardy plant, suitable for damp situations. Their group of Wallflowers, named Veitch's Double Strain, was exhibited "for the strain." The group rose to a higher point at the back, and displayed varying sizes of plants, those at the back being a yard high, the front ones 1ft. There was no question about the size and breadth of the flower spikes, and the richness of colouring was very decided. Their hardy plants included *Myosotis alpestris rosea* and *M. a. cœrulea*, mixed Cowslips, double Arabis, and *Gentiana verna*. Their Tulips included the choicest of those now in season, and so with the Narcissi. Their yellow trumpet Daffodil, Mrs. James H. Veitch, is a noble flower, and of very large size.

Messrs. Carter and Co., High Holborn, London, staged a central group of *Cineraria stellata* in colours, purple, crimson, blue, mauve, white, and other shades.

The Slough firm (Mr. Chas. Turner) were forward on this occasion with varieties of *Primula Sieboldi*, and comprised the following: Arthur, lavender purple; Harry, deep mauve; Harry Leigh, lavender; alba magnifica, pure white, crimped edges; Mrs. Crossland, paler mauve than Harry. Queen of Whites and Victor were other good forms.

Messrs. Cheal and Sons, Lowfield Nurseries, Crawley, staged sprays of hardy flowering trees and shrubs, and anyone who knows these Crawley Nurseries will require no hint that the group was effective, and embraced a wide selection. The Pyruses included such fine varieties as Parkmani fl.-pl., *P. Malus Cheali*, *P. spectabilis Riversi*, *P. spectabilis rosea* fl.-pl., *P. Malus baccata fructu-luteo*, *P. nikita*, *P. Niedwetziana*, a new species with dark stems and reddish flowers. Their collection of Pyrus is, indeed, the finest in the kingdom. *Ribes aureum* and *Exochorda grandiflora* were also very fine. The bronzy leaved Sycamore likewise was good.

Messrs. Waterer and Sons, Limited, American Nurseries, Bagshot, Surrey, staged Acers and Rhododendrons. A selection of the former would include *A. palmatum dissectum* and its purple form; *A. japonicum aureum*, *A. j. cratægifolium*, and *A. palmatum sanguineum*.

Messrs. G. Jackman and Sons, Woking Nursery, Surrey, staged a bright array of hardy plants; as did Mr. M. Pritchard, of Christchurch.

Mr. John Russell, Richmond Nurseries, Richmond, grouped Japanese Maples effectively, and included shapely plants of *Acer palmatum dissectum*, *A. p. d. purpureum*, *A. japonicum aureum*, and *A. palmatum atro-purpureum*.

Messrs. Barr and Sons, King Street, Covent Garden, W.C., staged a very large collection of Tulips, hardy flowers, and Narcissi. The Tulips, as follows, were lovely beyond praise: *Retroflexa*, yellow; Royal White; *fulgens*, crimson; Greigi, scarlet crimson; *Ostrowskiana*, livid crimson, with orange base; *acuminata*, curious and beautiful; and the following Darwins: *Pride of Haarlem*, rose-cerise; *Fra Angelica*, near black; *Van Poortvliet*, bright rose-crimson; *Cornet*, purple-violet; and *Hecla*, a rich glossy and dark mahogany red.

Messrs. Storrie and Storrie, Dundee, exhibited a large and pleasing collection of Polyanthuses and border Auriculas in great variety. Amongst the Polyanthuses were Giant Duplex, Hose-in-Hose, the new hybrid Cowslip, *Polyanthus Bohemian*, and Harbinger were good; and Auriculas Miss Jekyll, St. Theresa, &c. The new "Albino" Borecole in vases in the back row of an exhibit was very pretty.

Messrs. Wm. Cutbush and Son, Highgate, N., were well represented by a very nice exhibit of Azaleas, Pæonies, Malmaison Carnations, &c., forming altogether a very pretty bank of colour. Amongst the tree Pæonies we noticed Louis Mouchelet, a charming double rose pink, Reine Elizabeth, and Comte de Nieperge; with the Azaleas exhibited were a double Ghent, Barthola Lazari, a double Rosetti, and Raphael de Smet; and the Carnations Amphion, Cecilia, Winter Beauty, and Souvenir de Malmaison, Chas. Freemantle, and M. Sault, were, indeed, fine examples of good flowers.

Messrs. John Laing and Sons, The Nurseries, Forest Hill, staged a collection of Rhododendrons, Clematis, and other flowering shrubs. *R. Catawbiense* fl.-pl. and Rosamond were handsome; and Clematis Princess of Wales, a beautiful blue, was in good form. *C. Venus Victrix* was shown well, and the Japanese Maples and other foliage plants intermixed gave a pretty, bright appearance to the whole.

Messrs. R. B. Cant and Sons, The Old Rose Gardens, Colchester, exhibited a small but choice collection of cut and pot Roses. Amongst the H.P.'s were Duke of Edinburgh and Catherine Mermet as standards. H.P. Margaret Dickson and Crown Prince were in good form. The Teas and H.T.'s were represented by grand blooms of Bridesmaid, Anna Olivier, Medea, Mrs. W. J. Grant, and The Bride, as well as many other well known varieties.

Mr. Amos Perry, Hardy Plant Farm, Winchmore Hill, staged

a large and varied collection of hardy plants, comprising many varieties of Irises, Fritillarias, Phlox canadensis, Cheiranthus lutea plena, Pulmonaria virginica, Geums, Erythronium giganteum, and Alyssum Sulphur Queen, &c. All were in good condition.

Messrs. Frank Cant and Co., Braiswick Nursery, Colchester, staged a magnificent collection of well grown cut Roses. Amongst some of the best were Maman Cochet, Marie Finger, Muriel Grahame, Ulrich Brunner, Mrs. E. Mawley, and others. The firm staged a new Polyantha Rose, apricot-carmine in colour, and named Ruben, apparently of good habit.

Mr. H. B. May, Upper Edmonton, was represented by an exceedingly interesting collection of British Ferns in 5in pots. Many very pretty forms were shown, amongst which the Athyrium were good.

The same firm had a nice collection of Zonal Pelargoniums in 5in pots, about fifty well grown plants. M. G. Merand (bright purple), Madame Edgar Quinet, &c., were good as semi-doubles.

Messrs. Reamsbottom and Co., Alderborough Nursery, Geashill, King's County, Ireland, sent a large and grand collection of their Alderborough strain of St. Bridget Anemones, the form of which was good, and the colours ranged from pure white to deep crimson. The substance of the flowers was very good, and the size enormous. About ninety large vases were staged, and well deserved the award they obtained.

Messrs. Hugh Low and Co., Bush Hill Park, London, N., staged a small but choice exhibit of Malmaison and other Carnations, Ericas, &c., in variety. Amongst the Carnations, Calypso, Princess May, and Lady Rose were good in substance and colour. Ericas Cavendishi and propendens were well grown plants. The whole exhibit was tastefully arranged, and the Schizanthus Wisetonensis in the centre was very beautiful.

Lady Susan Byng, Boyman Manor, Chesham, Bucks, sent two fine baskets of well grown Mignonette and Schizanthus wisetonensis.

Mr. H. J. Jones, Rycroft Nursery, Lewisham, exhibited a choice selection of Tulips. T. elegans, Prince of Orange, Duchesse de Parma, and Mons Tresor were fine examples. The Palms and other foliage plants intermixed lightened the group, which was well staged. La Tulipe Noire, a variety about 2½ft high, with a compact flower of good substance, was an item attracting a good deal of attention.

The Guildford Hardy Plant Nursery staged Saxifraga Guildford Seedling, a pretty flower on 6in stalks, crimson, with pale centre.

Mr. C. Turner, of Slough, also sent Ivy-leaved Pelargonium Colonel Baden-Powell. The individual florets were nearly 2in in diameter, and the colour is pale pink.

Frank Lloyd, Esq., Coombe House, Croydon, sent some fine compact plants of Primula obconica, which were very floriferous in both mauve and pure white.

Messrs. Paul and Son, Chesham, sent three blooms of Roses, Madame Berkeley, from a plant which is now blooming for the second time since Christmas. The form and substance of this grand Rose were magnificent, and the colour, ivory white, was very pure.

Messrs. Gilbert and Son, The Dyke, Bourne, Lincs, sent a few vases of Anemone, among which A. fulgens oculata, good crimson, with ring of pale yellow, is a good flower, and a double crimson, A. coronaria fl.-pl King of Scarlets, is good but rather stiff flowers. Other varieties were exhibited in good form.

Messrs. T. S. Ware, Limited, Fulham, sent hardy plants.

Mr. W. J. Caparne, Guernsey, exhibited a collection of Irises

which are intermediate between the early pumila section and the Germanica, thus affording flowers much resembling the Germanicas, and quite a month earlier. Amongst those of greater merit in the vases were Brunette and Charmant Royal.

Orchid Committee.

Present: Harry J. Veitch, Esq. (in the chair), with Messrs. James O'Brien, Jeremiah Colman, de B. Crawshaw, H. M. Pollett, Frank A. Rehder, Walter Cobb, H. Little, Jas. Douglas, N. A. Bilney, H. T. Pitt, T. W. Bond, J. W. Odell, F. J. Thorne, G. F. Moore, W. Boxall, W. H. White, W. H. Young, H. A. Tracey, J. Wilson-Potter, F. Sander, and H. Ballantine.

Messrs. B. S. Williams and Son, Upper Holloway, London, N., staged Cattleya Mendeli, C. Mossiae, Dendrobium Dalhousianum lutea, Odontoglossum Uro-Skinneri, Vanda suavis, Tricopila suavis, and other Orchids, in splendid style.

Sir F. Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, staged Lælia Cattleya Hebe, a prettily formed flower and sweetly coloured; L.c. Eclipse, another gem; and a pretty piece of Odontoglossum abrosium punctatum.

The Hon. Walter Rothschild (gardener, Mr. E. Hill), Tring Park, Tring, Herts, the Tring Park variety of Lælia x cinna-barosa, with richly coloured red-chestnut sepals and petals, and long purplish lip.

Messrs. J. Veitch and Sons, Limited, The Royal Exotic Nursery, Chelsea, brought together a group comprising Cattleya Schrödera, C. Mendeli, Lælia purpurata alba, with blooms of enormous size, and beautifully coloured; the showy Lælia Latona, L. c. Zephyra, with tea-coloured petals and sepals; Cattleya intermedia alba, pure white; C. Niobe, L. c. Aphrodite alba, and other choice varieties. Lælia and Latona made a fine show.



Cactus Dahlia, Clara G. Stredwick.

See "New Cactus Dahlias," page 403.

H. T. Pitt, Esq. (gardener, Mr. Thurgood), Stamford Hill, S.E., arranged one of the richest and finest groups that have lately been seen in the Drill Hall. This was the unanimous verdict of most of those who viewed the exhibit. *Odontoglossums* were the chief plants included, and among these were *O. Adrianae* and many splendid crispums. *Cattleya Lawrenceana* is flowered by Mr. Pitt as few can flower it, and was well shown here. A splendid form of *C. Mendeli* was much admired, as was his beautiful specimen plant (carrying seven blooms) of *C. Schröderiana Heatonense*.

Sir F. Wigan, Bart., had a group of *Miltonia vexillaria Chelsoniensis* besides the plants already noted. In this larger group were fine pieces of *C. citrina*, *Aërides Fieldingi* with two long spikes, *Cypripedium Lawrenceanum*, *Cymbidium eburneum*, and *Lælia purpurata*.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, furnished an effective display, and included in their group an extraordinarily fine specimen plant (in a basket) of *Cattleya Skinneri*, bearing sixteen trusses of the handsome mauve-purple flowers, each representing from eight to a dozen blooms. *Lælia tenebrosa* was also shown, and *Cattleya Schröderae* var. *Phyllis*, with deep orange-coloured throat. Their *C. Schilleriana Regnelli* (dark variety) was, to us, exceedingly attractive.

Baron Schröder, The Dell, Egham, Surrey, staged *Odontoglossum excellens*, bearing a strong raceme of eleven large and well coloured flowers. His *O. triumphans laticepalus*, though not very showy, is a richly coloured flower, and strong.

Narcissus Committee.

Present: H. B. May, Esq. (in the chair), with Miss E. Wilmott, Messrs. S. Eugène Bourne, A. Kingsmill, J. T. Bennett-Poë, W. F. M. Copeland, J. D. Pearson, P. R. Barr, W. H. de Graaff, W. T. Ware, W. Poupart, James Walker, C. Scrase-Dickins, G. H. Engleheart, and Richard Dean.

This committee had very much lighter labours on this occasion, though a number of awards were given.

Fruit Committee.

Present: Geo. Bunyard, Esq. (in the chair), with Messrs. W. Balderson, Joseph Cheal, M. Gleeson, S. Mortimer, Alex. Dean, Edwin Beckett, Wm. Pope, Geo. Kelf, G. Reynolds, C. G. A. Nix, G. Norman, H. Somers Rivers, James H. Veitch, Henry Esling, F. Q. Lane, J. W. Bates, O. Thomas, and J. Jacques.

Messrs. R. Veitch and Son, Exeter, staged Radishes, Great Northern, Great Eastern (white), and Great Western. Messrs. Carter and Co. staged Radish Icicle, long and white. Messrs. J. Veitch and Sons, Limited, had Cucumber Challenger. Lady Plowden, Aston Romont House, Oxon, received a cultural commendation for Lemons. The Horticultural College, Swanley, staged seventeen punnets well filled with Strawberries, all large sized, firm, luscious, and ripe.

Medals.

FLORAL COMMITTEE.—Silver-gilt Flora for St. Briget Anemones to Messrs. Reamsbottom, Ireland; and for cut Roses to Messrs. F. Cant and Co., Colchester. Silver-gilt Banksian for hardy flowers to Messrs. Jackman and Son, Woking; and for Auriculas to Messrs. Storrie and Storrie, Dundee. Silver Flora for Maples to Messrs. J. Waterer and Sons, Bagshot; for hardy flowers to Mr. Amos Perry, Winchmore Hill; for hardy foliage plants to Messrs. J. Cheal, Crawley; for *Primula japonica* to Messrs. J. Veitch and Sons, Chelsea; for Japanese Maples to Mr. J. Russell, Richmond; for hardy cut flowers to Mr. M. Prichard, Christchurch, Hants. Silver Banksian for Azaleas, Pæonies, &c., to Messrs. W. Cutbush, Highgate; for *Cineraria stellata* to Messrs. J. Carter and Sons, High Holborn; for pot Roses to Messrs. B. R. Cant and Sons, Colchester; for *Maréchal Niel* Roses to Mr. J. Walker, Thame; for *Primula Sieboldi* to Mr. C. Turner, Slough; for hardy flowers to Messrs. T. S. Ware and Co., Feltham; for British Ferns, &c., to Mr. H. B. May, Upper Edmonton. Bronze Flora for hardy flowers to Messrs. Wallace and Co., Colchester; and for hardy Iris to Mr. W. J. Caparne, Guernsey.

ORCHID COMMITTEE.—Silver Banksian for groups to Messrs. Hugh Low and Co., Enfield; Messrs. B. S. Williams, Upper Holloway. Baron Schröder, The Dell, Egham; Messrs. Jas. Veitch and Sons, Chelsea; Sir F. Wigan, East Sheen; and Gold Medal to H. T. Pitt, Esq., Stamford Hill.

NARCISSUS COMMITTEE.—Silver Banksian to Mr. H. J. Jones for group of Tulips. Silver Flora to Messrs. Barr and Sons, Covent Garden, for group of Daffodils.

FRUIT COMMITTEE.—Silver Banksian for collection of Strawberries to the Horticultural College, Swanley, Kent.

National Auricula, Northern Section.

The annual exhibition, held in the Coal Exchange, Manchester, on Saturday, May 3, was, from various causes, on a smaller scale than usual. Many prominent exhibitors were entirely unrepresented, and consequently the show was robbed

of much of its interest. The flowers shown were, however, of good quality, and much interest was taken in them by those visitors who braved the rain, hail, thunder, and lightning, which were the features of the day. There were no novelties of note staged in the Show Auricula classes. In Alpines Mr. Bentley carried off the first prizes for sixes and fours, staging nothing but seedlings, and Mr. Keen, of Southampton, also brought some good seedlings. Polyanthus were few in numbers, ill-health keeping away two of the best growers. Messrs. Mottershead and Geggie (Sale) acted as judges, and made the following awards:—

Class 1, six dissimilar Auriculas, one at least of each class.—First, Mr. T. Lord (Tadmorden) with Mrs. Henwood, R. Headly, Geo. Lightbody, Ruby, Abraham Barker, and Acme; second, Mr. W. H. Midgley (Halifax), with Rev. F. D. Horner, Letitia (white-edged seedling), George Lightbody, James Hannaford, Rachel, and Gerald; third, Mr. T. Buckley (Stalybridge), with Rev. F. D. Horner, Abraham Barker, Acme, Rachel, Mrs. Potts, and Ruby; fourth, Mr. L. Clark (Lynn), with Mrs. Henwood, Abraham Barker, George Lightbody, R. Headly, Heatherbell, and Mrs. Potts; fifth, Mr. J. W. Bentley (Middleton), with Rev. F. D. Horner, Dr. Kidd, Acme, George Rudd, Mrs. Seville, and Mrs. Potts.

Class 2, four dissimilar Auriculas, one in each class.—First, Mr. Lord, with G. Lightbody, A. Barker, Acme, Gerald; second, Mr. Buckley, with G. Lightbody, Rev. F. D. Horner, Acme, Ruby; third, Mr. W. H. Midgley, with G. Rudd, Rev. F. D. Horner, Letitia, Gerald; fourth, Mr. L. Clark, with R. Headly, A. Barker, Acme, Gerald; fifth, Mr. Bentley, with G. Rudd, Hibernia, Acme, Ruby.

Class 3, pairs of Auriculas.—First, Mr. R. Gorton (Eccles), with Mrs. Henwood and Mrs. Potts; second, Mr. J. E. Beaumont (Stalybridge), with Rev. F. D. Horner and Geo. Lightbody; third, Mr. J. Wood (Stalybridge), with Heatherbell and Heroine.

Class 4, no exhibit.

Class 5, single green edges.—First, Mr. Lord, with Abraham Barker; second, Mr. Lord, with Shirley Hibberd; third, Mr. Bentley, with Mrs. Henwood; fourth, Mr. Clark, with Rev. F. D. Horner; fifth, Mr. Clark, with Abraham Barker; sixth, Mr. Bentley, with Shirley Hibberd.

Class 6, single grey edges.—First, Mr. Lord, with George Lightbody; second, Mr. Clark, with George Lightbody; third, Mr. Clark, with R. Headly; fourth, Mr. Lord, with R. Headly; fifth Mr. Beaumont, with Marmion.

Class 7, single white edges.—First, Mr. Lord, with Acme; second Mr. Midgley, with Mrs. Dodwell; third, Mr. Midgley, with Letitia; fourth, Mr. Lord, with Conservative; fifth, Mr. Clark, with Mrs. Dodwell.

Class 8, single Selfs.—First, Mr. Bentley, with Red Perfection; second, Mr. Lord, with Gerald; third, Mr. Lord, with Mrs. Potts; fourth, Mr. Buckley, with Ruby; fifth, Mr. Gorton, with Ruby; sixth, Mr. Bentley, with Elsie; seventh, Mr. Beaumont, with Gerald; eighth, Mr. Clark, with Mrs. Potts.

Premier Auricula in the show, Mr. Lord, with Abraham Barker.

Alpine Auriculas.

Class 9, six Alpine Auriculas.—First, Mr. Bentley, with Mrs. Lord, Attraction, Mary Bentley, Edith Bentley, Aglaia, and Olivia; second, Mr. Keen (Southampton), with Herod, Mrs. Poulson, Joachim, and three unnamed seedlings; third, Mr. Stelfox, with John Allen, Patience, Bright Eyes, Dr. Durnford, Forest Queen, and Mrs. Beswick; fourth, Mr. Beaumont, with Winifred, Urania, Dean Hole, Dr. Durnford, Firefly, and C. W. Needham.

Class 10, four Alpine Auriculas.—First, Mr. Bentley, with Placida, Miss Baker, Dolly, and Clio; second, Mr. Lord, with Exonian, Mrs. J. W. Bentley, Mrs. H. Turner, and a seedling; third Mr. Beaumont, with Mrs. Gorton, Mrs. H. Turner, Mrs. M. Smith, and Geo. Stelfox; fourth, Mr. Buckley, with Dr. Durnford, J. Allen, Bright Eyes, and Mrs. M. Smith; fifth, Mr. Stelfox, with Mrs. H. Turner, Dr. Durnford, John Allen, Exonian; sixth, Mr. Keen, with Pelham, Joachim, and two seedlings.

Class 11, pair of Alpines.—First, Mr. G. Geggie, with Judith and Duke of York; second, Mr. Gorton, with Seedling 106 and Duke of York; third, Mr. T. Lord, with Mrs. J. W. Bentley and Exonian; fourth, Mr. W. Stringer (Middleton), with John Allen and Forest Queen; fifth, Mr. T. Buckley, with Judith and C. W. Needham; sixth, Mr. Wood, with Rev. F. D. Horner and Dr. Durnford.

Class 12, No exhibit.

Class 13, single plants, yellow centres.—First, Mr. Gorton, with Dean Hole; second, Mr. Keen, with Herod; third, Mr. T. Lord, with Pluto; fourth, Mr. G. Geggie, with Pluto; fifth, Mr. Gorton, with Miranda; sixth, Mr. Beaumont, with Dr. Durnford.

Class 14, single plants, white centres.—First, Mr. Lord, with Winifred; second, Mr. Lord, with Patience; third, Mr. Bentley, with Blue Peter; fourth, Mr. Stelfox, with Seedling; fifth, Mr. Beaumont, with Mrs. H. Turner; sixth, Mr. Bentley, with Thetis.

Premier Alpine, Mr. Gorton, with Duke of York.

Polyanthuses.

Class 15, three black ground Polyanthuses.—First, Mr. Stringer, with James Turner, Tiny, and Mrs. Brownhill; second, Mr. Stelfox, with Tiny, Trilby, and Mrs. Brownhill.

Class 16, three red ground Polyanthuses.—First, Mr. Stringer, with Sidney Smith, George IV., and Middleton Favourite; second, Mr. Stelfox, with Sidney Smith, George IV., and Middleton Favourite.

Class 17, single plants, black grounds.—First, Mr. Stringer, with Mrs. Brownhill, and second with Trilby.

Class 18, single plants, red grounds.—First and second, Mr. Stringer, with Sidney Smith and Middleton Favourite.

Premier Polyanthus, Mr. Stringer, with Mrs. Brownhill.—J. W. B.

National Auricula—Midland Section.

The third annual exhibition was held in Edgbaston Botanic Gardens, on April 30, during cloudy weather. The show was opened by Alderman Lawley Parker, of Edgbaston, who is himself passionately fond of the Auricula. There was a fair attendance of visitors, considering, too, the recent Daffodil Show. Had the Auricula Show been held, as previously, in conjunction with the former, extra provision would have had to be made for the Auriculas by laying one of the other plant structures or a marquee under contribution, so numerous were the entries; whilst for general quality there was a consensus of opinion amongst experts that it was one of the finest exhibitions of the kind ever known. In a few instances there was observed a slight roughness of the flower, apparently attributable to the prevailing cold and sunless weather during the latter half of April, and Auricula flowers love a certain degree of warmth and sunshine. The names of the prize list of exhibitors is sufficient guarantee that the newest and best varieties extant might have been expected from the south, north, and midlands.

There is evidently a growing tendency around Birmingham towards the revival of this oldest of florists' flowers, and the recent exhibition ought materially to aid in the consummation. It may be interesting to remark that in the afternoon the majority of the exhibitors, judges, and others, were persuaded to have their photographs taken in a group in the grounds adjacent to the Alpine rock garden, and it is intended to announce in the *Journal of Horticulture* when copies may be had by friends of the cult, in case they may desire to possess a memento of such veteran florists as Messrs. Ben Simonite, Rev. F. D. Horner, Gordon (Manchester), R. Dean, Tom Lord, J. W. Bentley, H. Midgley (Halifax), Richard Gorton, W. B. Latham, John Pope, J. Clements, and others; whilst the veteran J. Douglas was represented by his son, and not forgetting A. R. Brown, A. W. Jones, and the courteous secretary, R. Holding.

Show Auriculas.

In the class for six varieties there were ten competitors. Mr. J. Douglas won the first prize with grand examples of Mrs. Dodwell, possessing very large, but somewhat rough, pips; Mrs. Henwood, very fine; Olympus, George Lightbody, Ruby, and an exquisite Chloe, resembling Mrs. Henwood in colour. This was also selected as the premier plant in the Show class. The second prize fell to Mr. Tom Lord, Todmorden, for excellent representatives of Mrs. Henwood, Ruby, Abraham Barker, George Lightbody, Richard Headly, and Acme; the third to Mr. J. Stokes, Harborne; fourth, Messrs. Phillips and Taylor, Bracknell; and fifth, Messrs. John Pope and Sons, King's Norton. For four Auriculas, dissimilar, Mr. Tom Lord, Todmorden, was accorded the first honours with a superb coterie, comprising Mrs. Henwood, George Lightbody, Abraham Barker, and Acme; second, the Rev. F. D. Horner, with Loveliness, Favourite, Rev. F. D. Horner, and Bellerophon; third, Mr. James Douglas, fourth, Mr. W. H. Midgley, Halifax; fifth, Mr. J. Stokes. There were ten entries for two plants. The Rev. F. D. Horner was victorious with Eurydice and Beauty; second, Mr. W. H. Midgley, with James Hannaford and Letitia; third, Mr. R. C. Cartwright; and fourth, Mr. J. W. Bentley, Castleton. There were nine exhibitors. For a single plant, green edge, there were twenty entries, and Mr. T. Lord scored with Abraham Barker, and Shirley Hibberd for the second prize; third, Messrs. Phillips and Taylor; fourth, ditto; fifth, Mr. J. W. Bentley. For a grey edged, Mr. W. B. Latham was the victor with a refined George Lightbody; second, Mr. J. Douglas, with the same variety; and third, Mr. H. Midgley, with George Rudd. White edged sorts were strongly shown, the Rev. F. D. Horner leading the way with Modesty, which bore its honours well; second, Mr. J. Douglas, with Morna (very fine); third, Messrs. Pope and Sons, with Heatherbell; fourth, Mr. W. B. Latham, with Acme; and fifth, Mr. Midgley, out of nineteen entries.

The Selfs were a formidable lot, numbering twenty-four entries. The Rev. F. D. Horner again asserted his supremacy with a grand example of Challenger; second, Mr. Tom Lord, with Gerald (very fine); third, Rev. F. D. Horner; fourth, Mr. R. C. Cartwright, both with Mrs. Potts; fifth, Mr. J. Clements, with Gerald. For seedling Show Auriculas there were two prizes

offered, and the Rev. F. D. Horner was placed first with Nigella, a beautiful, deep purple Self, with fine paste; second, the same exhibitor with Erebus, with a variety similar to the foregoing.

Alpines.

These were also strongly represented, and much admired by the visitors. There was no restriction as to the number of trusses, and rightly so, considering their floriferousness. For six dissimilar varieties there were eight exhibits, and Mr. J. W. Bentley led with Coronet, a seedling, a shaded purple; Mary Bentley, a seedling; Olivia, a seedling; Mrs. Lord, a seedling; Attraction, a seedling, and Aglaia. Second, Mr. J. Douglas; and third, Mr. A. R. Brown (Handsworth). For four plants, dissimilar, there were ten entries, and Mr. J. Douglas proved the victor with Ziska, Dean Hole, Firefly, and Duke of York. Second, Mr. J. W. Bentley. For two plants dissimilar, ten exhibits faced the judges, and the local Crimean War veteran Dragoonist, Mr. J. Clements, was to the front with Winnifred and Mrs. Martin Smith. Second, Mr. J. Godson (Handsworth); and third, Mr. F. T. Poulson (Stafford). There were no less than twenty-six exhibits in the class for a single plant with gold centre. Mr. R. Holding, the secretary, led with Mrs. Gorton; second, Mr. A. C. Brown, with Duke of York; third, Mr. R. Holding with the same variety; fourth, Mr. A. R. Brown, with Ziska; and fifth, Mr. R. C. Cartwright, with Firefly. It was altogether an excellent complement. There were nineteen entries for a single plant with light centre, and Mr. J. W. Bentley secured first honours with Modesty; second, Mr. H. E. Burbidge, with Mrs. H. Turner; third, Mr. J. W. Bentley, with Blue Bell; fourth, Mr. R. C. Cartwright; and fifth, Mr. R. Holding.

In the class for maiden growers Mr. R. C. Cartwright won with Dean Hole and Firefly; second, Mr. H. E. Burbidge, with Bella Ainslee and Mrs. P. Campbell; third, Mr. G. D. Callon (Aston). In the class for a seedling with gold centre, Mr. R. C. Cartwright was first, and Mr. R. Holding second. For a seedling with light centre, Mr. J. W. Bentley, with Blue Peter, a promising flower; and the second prize, the same exhibitor, with Clio.

The gold laced Polyanthus was shown in more than usual strong force, and Messrs. John Pope and Son were placed first with compact foliaged plants of George IV., Exile, and two of Cheshire Beauty; second, Mr. J. Stokes. Very bright and attractive were the groups of Alpine kinds of plants exhibited in a box or basket not exceeding 3ft either way. Messrs. Pope and Sons were placed first with a brilliant complement of Primulas, Auriculas, and Polyanthus; second, Mr. R. C. Cartwright; and third, Mr. J. Clements; and Mr. R. Holding deserved recognition for a nice assortment.

Certificates of Merit.

Mr. J. Douglas, for stage Auricula Chloe, green edge; Mr. W. H. Midgley, for Letitia, white edge; Rev. F. D. Horner, for Favourite, a Self; Nigella, a Self; and Erebus, a Self. To Mr. J. W. Bentley for respectively Aglaia, Attraction, and Mrs. Lord. In addition to the first prize for six Show Auriculas, the silver medal of the society was also awarded to Mr. J. Douglas, and the bronze medal to the Rev. F. D. Horner, in addition to the first for six Alpine Auriculas.

A short conference of growers and exhibitors was held in the afternoon after the luncheon, and it was resolved that the long established and vexed question regarding the non-recognition of "pin-eyed" blooms of Auriculas and Polyanthuses should be definitely settled at once, resulting unanimously that the "pin-eyed" be considered a defect.—W. G.

Scottish Horticultural.

The May meeting of this association was held on Tuesday last, the 6th instant, in 5, St. Andrew's Square, Mr. Comfort, president, in the chair. There was a very large turnout of members. Thirteen new members were elected, and seven were proposed for election at next meeting. Mr. J. H. Cumming, The Gardens, Grantully Castle, Aberfeldy, read a paper on "Gardens and the Gardening Profession." Mr. Cumming for fully half an hour kept the audience spellbound with his very beautifully written and suggestive paper on the gardens and gardeners of the present day. He compared present-day gardening with that of the past, and the many changes that have taken place, and pointed out that it was greatly to the credit of practical gardeners for the adaptability they had shown in keeping abreast of the times, and being able to meet the more exacting demands of their employers in the development of gardening. Mr. Cumming's paper was pregnant with sound, sensible advice to gardeners, especially the young. Take one sentence as an instance: "A good address and intelligent manner in intercourse with employers tends much to a gardener's success." A very animated and interesting discussion followed, and Mr. Cumming was awarded a very hearty vote of thanks. The exhibition table was very gay with most interesting exhibits, the most prominent being a very beautiful exhibit of Hippeastrums from Mr. Cairns, gardener, Balruddery, Forfarshire. They were all seedlings of most brilliant colours and

exquisite quality. The stems were exceedingly strong, and showed very high cultural skill. A First Class Certificate was awarded to a very rich crimson colour of great size and substance. Mr. Cairns also showed beautiful cut blooms of Rhododendron fragrans. A very beautiful vase of Spanish Iris in choice variety, and elegantly interspersed with cut Gypsophila, was exhibited by Messrs. Todd and Co., florists. A vase of Niphetos Rose, in excellent condition, came from Mr. Henderson, gardener, Monkwood. Mr. Henderson also exhibited some very pretty and interesting Daffodils, including Queen of Spain, Cyclamineus, Triandrus, &c. A vase of Clematis Duchess of Edinburgh was much admired for its beautiful double flowers, from Mr. Small. Hybrid Primulas from Mr. Murray Thomson were very interesting. A plant of Schizanthus papilionaceus was very pretty, from Mr. Comfort. Mr. Johnston, Hay Lodge, sent a vase of Rhododendron Veitchianum and Countess of Haddington. A vote of congratulation was passed by the meeting to Mr. McHattie, the city gardener, for the successful introduction of spring gardening in the city gardens. The usual votes of thanks brought the meeting to a close.

Temple Flower Show, May 28th, 29th, and 30th.

For the fifteenth year in succession the Royal Horticultural Society will hold their great annual Flower Show in the Inner Temple Gardens (by the kind permission of the Treasurer and Benchers) on May 28, 29, and 30. Every year the desire of growers to exhibit increases, and the officials of the Society have a very anxious task in endeavouring to do justice to those growers who regularly support the fortnightly shows of the Society held at the Drill Hall, Buckingham Gate, and yet at the same time to encourage others also to come forward. The space is absolutely limited by order of the Temple authorities; no more or larger tents may be erected, hence every new exhibitor whose entry is accepted, means curtailment of the space allotted to previous supporters. The Society will issue an "Official Catalogue" comprising a history of the Royal Horticultural Society, particulars of the meetings and exhibitions held at the Drill Hall; of the Coronation Rose Show at Holland House, Kensington, on June 24 and 25, and of the Fruit Show to be held at the Crystal Palace, on September 18, 19, and 20, also schedules of plants, with the names and addresses of all the Temple exhibitors entered up to May 20. There will also be the programme of the music to be performed each day by the band of His Majesty's 1st Life Guards. The Judges will meet at the Secretary's tent at 10.30 a.m. on May 28, at which hour punctually the tents will be cleared of all exhibitors and their assistants. The Fruit, Floral and Orchid Committees will assemble at the Secretary's tent at 11 a.m. sharp, and the show will be opened at 12.30. All plants for certificate must be entered on or before Friday, May 23. Address, Secretary, R.H.S., 117, Victoria Street, London, S.W. A notice on a postcard will be sent to each exhibitor, Wednesday, May 21, stating the number of square feet allotted to him, and the number of tent (or tents) in which the exhibits are to be placed. No plants can under any circumstances be entered on the day of the show.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1902.										
April and May.										
Sunday ...27	E.N.E.	deg. 52.9	deg. 45.2	deg. 56.6	deg. 44.0	Ins. —	deg. 51.2	deg. 50.3	deg. 48.2	deg. 39.2
Monday ...28	E.N.E.	47.9	41.5	54.1	39.5	—	50.0	50.2	48.3	30.3
Tuesday ...29	E.N.E.	46.2	41.6	52.4	36.0	—	49.0	49.9	48.5	28.0
Wednesday 30	W.N.W.	52.1	46.7	56.6	39.0	0.08	48.9	49.4	48.7	30.5
Thursday 1	N.W.	51.2	44.4	56.4	36.0	0.05	49.5	49.3	48.7	38.7
Friday ... 2	S.E.	44.5	43.7	57.2	31.0	0.05	48.3	50.5	48.7	23.3
Saturday 3	S.W.	50.9	45.9	54.9	40.5	0.35	47.9	49.3	48.7	32.6
MEANS ...		49.4	44.1	55.5	38.0	Total. 0.53	49.3	49.8	48.5	31.8

The first part of the week was fine, with cold drying winds; the latter part has been showery, with thunderstorms on the 3rd. A very sharp ground frost occurred on the morning of the 2nd.

THE BEE-KEEPER.

Historical Notes.

When we take up any old book upon the subject of bees, we must see at once the very little that was understood concerning the natural history of this most industrious of all of God's creatures. This ignorance is the more extraordinary when we consider how many scientific persons have written about the honey-bee, and that the attention of mankind has been drawn to the subject by bees submitting themselves to be hived, and placed in our gardens under our immediate inspection. The first writer who speaks of the natural history of the bee is the famous historian, Xenophon. He states that there is a monarch in each hive. Aristomachus, a native of Asia Minor, spent sixty years in the study of bees; and Philissus of Thrace passed his life in the woods for the same purpose. Melissus, King of Crete, is said to have invented and taught the use of bee-hives. Aristotle and Pliny devoted some of their thoughts and writings to enlighten mankind on the natural history of the bee. The great Mantuan poet embodied in his Fourth Georgic the knowledge of bees in his time; but it would be as absurd to learn such knowledge of bees from his poems as it would be to learn political economy (as many do) from Goldsmith's "Deserted Village."

Dr. Charles Butler, who lived in the time of Charles I., was the first person who began to dispel past ignorance on this subject. He first taught that the sovereign of the hive is a female; that bees prior to swarming sent out scouts to find a new habitation; that in each journey from the hives bees attend to only one species of flowers in collecting farina; that the farina is collected only to feed the larvæ (grubs), and that it is not wax, for that when bees make most wax they gather no farina; that old stalls which are full of combs carry more of this matter than swarms, and yet have no more wax at the end of the year than at the beginning; that real wax is to be found in white scales at the bottom of the hive, the scales falling from the bees in working the combs, and that, when melted together, no one could doubt about its being wax. He also taught that the Lycopodon bovista would stupefy bees without destroying them.

John Thorley, who lived in the time of Queen Anne, made a further discovery as to wax, which he relates in the following words: "Viewing a hive of bees busy at labour, I observed one bee among the rest of an unusual appearance, upon which I seized her directly; and, with a very sensible pleasure, I found within the plaits of this bee no less than six pieces of solid wax, perfectly transparent, three upon one side and three upon the other, appearing to the eye equal in bulk and gravity." Thorley introduced side-hives, and the manner of taking honey described in the "Conservative Bee-keeper." He held that bees would die if they had only access to farina, and that they do not eat it under any circumstances. It is curious to remark, that about 200 years after the discovery of Butler, and 100 years after Thorley's, that an author, in the year 1821 (Arthur Aikin), should be so ignorant, or so obstinate, as to state in his book that "wax is made by bees from the dust within the anther of flowers," and "that larvæ are fed with the purest honey"; when Thorley had proved that wax is concreted under the scales of the working bees, and Butler that the farina is only used to feed larvæ. Buffon was in the same mistake to his death.

Joseph Warder, a physician, in the early part of the eighteenth century, taught that drones were males, and the workers females. He recommended ventilating hives when you are desirous that bees should not swarm. The following are the names of other persons who studied the subject that century: Reaumer, Riem, Schirach, Hunter, Knight, and Bonner, but, with two exceptions, their investigations were not attended with any great success, though they were strictly men of science. The two first examined the ovary of the queen with microscopic glasses, and found an immense number of eggs. Schirach discovered that bees had the power to convert a young grub of a working bee kind into a queen. Mr. Debrau, of Cambridge, lays claim to this discovery in the "Philosophical Transactions of 1777." Reim discovered prolific workers. Hunter established the fact that bees consume more honey in frosty than in open weather. Arthur Dodds and Knight, in the work just mentioned, claim as discoveries what Butler had established many years before. The same may be said of Bonner. Having now summed up all that was done by a host of learned men in investigating the natural history of the bee, amounting in the whole to a few facts, I now come to speak of Huber, a native of Geneva, who has done more to elucidate our subject than all his great predecessors had done before him.

If Butler first pointed out that wax and farina were quite distinct substances, and Thorley found wax under the scales of working bees, it was left to Huber to give a full explanation. If Schirach and Debrau discovered that bees have the power to make a working-bee maggot into a queen, they thought that

it was the only way the God of Nature had provided for the formation of a queen, it was left to Huber to render the experiment complete. If Riem discovered fertile workers, Huber showed the cause of them—namely, their having been nursed near royal cells, and having been fed upon royal jelly. If naturalists knew that drones were destroyed, or driven away in the autumn, it was Huber who discovered that they were stung to death by the working-bees at the bottom of the hive, and there only.

Francis Huber was born at Geneva, on July 2, 1750, and inherited a taste for natural history from his father. By the writings of Bonner, and by an intimacy with him, his attention was turned to the subject of bees. Most unfortunately he lost his sight, but had an assistant in Francis Berens, quite qualified for the task of carrying into effect the suggestions of his employer; and in Peter Huber, his son, he had a coadjutor in every way worthy of such a father, and who afterwards became the discoverer of the natural history of the ant. The elder Huber had married Maria Aimee Lullen, the daughter of a Swiss magistrate, who warmly entered into all his views, and assisted in his experiments, as did also his daughter Jurine, by her skill in anatomy. She has for ever set at rest all disputes as to the sex of the working bee. She died very young, or she would probably have added more facts to our knowledge of bees. The discoveries of Huber are most splendid, and his little work ought to be in the hands of every lover of natural history. Huber lived to a good old age, and died on December 22, 1831, aged eighty-one; but his name will exist for ever in the minds of all who love to study the works of the great Creator. After all Huber's discoveries, there are still some facts which want elucidation. The age to which bees live is still unknown; and whether the honey which bees collect from flowers undergoes change in the honey bag of the bee, or is deposited in the exact state in which it is found, is also involved in mystery.—C. A. L. [These historical notes are from an old essay on the subject.

They convey a history of bees and bee-keeping, but we caution the uninitiated against accepting all the teaching, or the books mentioned, as applicable, or in vogue at the present day.—ED.]

Trade Notes.

Porter's Coil Stake.

This stake, which is made of stiff galvanised wire, enamelled green, is now becoming well known and appreciated for its advantages over ordinary wooden stakes. The flower stems are simply placed in the coils, and require no tying. The stakes are practically everlasting, and they also add greatly to the appearance of the plants. Where many Carnations are grown the time taken in tying up the flower stems is a great drawback, and ordinary stakes want constantly renewing. The coil stake does away with both these disadvantages, and will be found a real boon to both gardener and amateur. A special stake is also made for Hyacinths and other bulbous plants. Mr. A. Porter, Stone House, Maidstone, is the patentee.

Messrs. Messenger and Co., Ltd.

A neat little brochure comes to us from this well known firm of horticultural builders and heating engineers. Their extensive new works, adjoining the L. and N.W. railway at Loughborough, occupy a site more than five acres in extent, and have therefore ample space for the storage and proper seasoning of large stocks of timber, a very important item in the erection of glass houses. Moreover, they have their own foundry and fitting department for the manufacture of all the various ironwork required in the erection, ventilation, and heating of glass houses. Their system of construction, combining iron muntins and light rafters, strengthened with tension rods, ensures perfect rigidity without undue obstruction of light by heavy timbers. The numerous houses they have erected on this principle are pronounced by practical gardeners to be unrivalled for growing purposes.

A New Weed Extractor.

At recent meetings of the Royal Horticultural Society in the Drill Hall there has been on view a useful garden tool—a lawn weed extractor. The primary object of the invention is to provide a tool by the means of which Daisies, Dandelions, and other noxious growths can be quickly and easily uprooted in large quantities from lawns, &c., and effectually destroyed. This object is obtained in the new patent weed extractor. In using the implement the operator presses the teeth behind the weed and draws it towards him. By this action the roots of the weeds become firmly fixed in the bifurcated ends of the teeth, and are easily removed from the ground and destroyed. This will be found a much easier and more pleasant method of weeding, especially by ladies, as it can be accomplished standing, thereby avoiding the painful and uncomfortable positions hitherto necessary. It can also be used for a like purpose in the kitchen garden, as an improved rake among the Onion beds, for lightly loosening the soil, and for various other purposes it will be found most useful. Various of the sundriesmen and some nurserymen supply it.



Fruit Forcing.

PEACHES AND NECTARINES: HOUSES STARTED AT THE NEW YEAR.—The very early varieties Waterloo and Early Louise Peaches with Advance and Cardinal Nectarines, have the fruit ripening, and the trees must not be syringed, but the soil should be maintained in a thoroughly moist state, and atmospheric moisture supplied by damping the border and path in the immediate vicinity of the trees when they become dry. The second early sorts, such as Hale's Early and Dr. Hogg Peaches, Early Rivers and Lord Napier Nectarines, have completed stoning and commenced the final swelling for ripening. Syringing in their case may be continued until the fruit commences to soften, when water on the skin may cause it to crack or impart an undesirable flavour. On the other hand, the midseason varieties, Stirling Castle, Dymond, Royal George, and Grosse Mignonne Peaches, Stanwick Elruge, Humboldt, and Pineapple Nectarines, are about completing the stoning process, and the trees must not be subjected to a higher temperature than 60deg to 65deg by artificial means, commencing to ventilate at 65deg, and not allowing 75deg to be exceeded without full ventilation. If the fruits are too thickly placed remove the smallest, allowing one fruit to each square foot of trellis covered with foliage, leaving them a little closer on strong wood, and less on the weaker. By apportioning the crop to the vigour or parts of a tree the evenness of the growths may be maintained. Tie the shoots as they advance, removing superfluous growths, not retaining more than can have exposure to light and air. Draw the leaves aside, or even shorten them, so as to expose the fruit to light, raising such as require it on laths placed across the wires of the trellis with their apexes to the light. After stoning maintain a good moisture in the house, and water the inside border copiously, which in well drained borders will be required once a week, mulching the border with about an inch thickness of short, sweetened lumpy manure. If the fruit is not required ripe as soon as practicable, continue 60deg to 65deg as the night temperature, 65deg artificially by day in dull weather, 70deg to 75deg with sun heat, closing at the latter with plenty of atmospheric moisture. In a temperature of 70deg to 75deg by artificial means, 80deg to 85deg or 90deg from sun heat, and moist atmosphere, Peaches and Nectarines swell to a great size after stoning, but they are not usually so high coloured nor so well flavoured as those ripened in less heat and moisture and with free ventilation.

TREES STARTED IN MARCH.—Thin the fruit now swelling freely, and choose the most promising for the crop, reserving those on the upper side of the trellis. Two or three fruits on strong shoots will be sufficient to leave, and proportionately fewer on weaker growths. Remove all superfluous shoots gradually, retaining those only for attracting the sap to the fruit, which stop at two or three good leaves, and those from the base of the current bearing wood for furnishing fruit another year, with such extensions as are necessary. Train the growths as they advance, securing them loosely to the trellis. Afford liquid manure to such as require more vigour, but avoid stimulating vigorous trees too much, as that will encourage growth at the expense of the fruit stoning. Keep red spider under by forcible syringing, or subdue it and aphides by promptly applying an insecticide.

LATE HOUSES.—The fruits being well set, the trees will need syringing in the morning and on fine afternoons, to rid them of the remains of the flowers. Commence thinning when the fruits are the size of horse beans, removing the smallest and worst placed, leaving a few more only than will be required for the crops, but regard must be had to the vigour of the trees, and their liability to cast some of the fruit or otherwise in stoning. Disbudding and laying in the shoots should be carefully attended to, doing the first gradually and the latter with due regard to the swelling of the shoots. A temperature of 50deg at night and 55deg by day will be sufficient to keep the trees in steady progress, ventilating freely above that, unless it is desirable to hasten the crop, when a temperature of 55deg at night and 60deg to 65deg by day may be secured, with 70deg to 75deg from sun heat, ventilating from 65deg.

UNHEATED HOUSES.—The fruits have set well, quite four times as many as the trees can bring to a full size, and they should be thinned as soon as the best can be decided upon by their taking the lead in swelling. Over-burdening the trees in the early stages of the fruit swelling prevents their making wood for another season's crop, while excessive disbudding may cause the fruit to fall or a strong growth to be made. A moderate

syringing on fine mornings will be a great assistance in ridding the trees of the remains of the blossoms; but afternoon syringing is not advisable, nor sprinkling likely to cause a moist atmosphere at night, as the weather is not yet to be depended on, and a severe frost occurring while the trees or house is damp is very much more likely to prove disastrous to the crop than if the atmosphere be dry. Ventilate at 50deg, not allowing an advance above 65deg without full ventilation, and close at 50deg, or before if there is a prospect of frost at night. If water be necessary apply it sufficiently early in the day to allow of the surface becoming dry before the house is closed.—**ST. ALBANS.**

The Kitchen Garden.

SCARLET RUNNER BEANS.—The main sowing ought now to be made in an open position in rich, deep soil, as the plants require a good rooting medium and unstinted moisture. The demands of the plants are very great during the flowering period, and the swelling of the pods, especially if the latter are not so closely picked as they ought to be. The rows should be at least 6ft apart, but it is not a bad plan to arrange them at wider distances providing the conveniences for watering the rows are available. This is important, as it is seldom the case that Beans can pass through the whole season without several soakings of water at the roots being needed. The deeper and richer the soil the less water is required, but a few applications are helpful. Each row should consist of a double line of Beans, placing the seeds 4in apart in the lines which may be 9in asunder. The drills must be drawn the latter width and 3in deep. One pint of Beans will sow a row 50ft long. A sprinkling of artificial manure in the drills promotes a vigorous and active growth. A mixture of a pound each of nitrate of soda, superphosphate, and kainit applied to 2 square rods of ground acts beneficially throughout the season.

DWARF FRENCH BEANS.—If a first sowing has not been made of these, several rows ought at once to be sown. Good ground is indispensable, for to secure a profitable and useful crop free and healthy growth must be made. Sow in drills not less than 2ft apart, the depth being 3in. Place the seeds 4in apart in a double row, and afterwards thin to a foot apart. Dwarf Beans will not flower and fruit profitably if at all crowded.

ASPARAGUS.—Asparagus should now be coming freely into bearing, and as the growths push through the surface soil they may be cut a few inches below, taking care not to injure adjoining growths.

PEAS.—Frequent attention must be given to Peas in various stages of development. The earliest rows are growing freely, and should be kept clean and free from weeds. More rows are ready for sticks, which must be afforded them according to their height, and before they grow too high. Draw earth on each side of rows as a support to stems. Protect those just coming through the soil, also the seed immediately it is sown, placing wire Pea-guards over the rows, or strands of black cotton. Veitch's Perfection, Autocrat, Walker's Perpetual Bearer, Sharpe's Queen, Ne Plus Ultra, and Champion of England are suitable varieties to sow now. It is best to sow now in trenches below the surface.

THINNING CROPS.—Frequent attention is necessary in thinning out rows of Lettuce, Onions, Carrots, Parsnips, Parsley. It is not essential that the final thinning should take place at the first removal of seedlings, but it must be done before they are too crowded. Remove weeds, too, at the same time, and lightly hoe among the crops.

BEET.—The ground reserved for Beet should be of a deep character and enriched with manure in the bottom spit only. Soil that has been thoroughly manured for a previous crop is the most suitable. The main crop can now be sown, drawing drills 12in to 15in apart and 2in deep. Sow seed in groups of two or three 8in apart, or scatter very thinly, finally thinning to 8in or 10in asunder. Sutton's Blood Red, Dell's Dark Red, Pragnell's Exhibition and Egyptian Turnip-rooted are good varieties.

SAVOYS.—A row or two each of several approved varieties should be sown. Early Elm, Drumhead, and Tom Thumb will prove useful. Sow thinly in drills a foot apart, and protect until the seedlings are advanced.

BROCCOLI.—A good selection of Broccoli must be included in the sowing of winter vegetables. Michaelmas White, Autumn Protecting, Purple Sprouting, Leamington, and Late White are all reliable sorts. Sow each kind in drills thinly, and protect with nets or wire guards. The spring varieties now turning in should be cut as soon as large enough, or lifted and laid in a cool place until required for use.—**EAST KENT.**

Trade Catalogues Received.

Thomas Butcher (A. H. Naylor), 23, Station Road, South Norwood.—*Bedding Plants and Dahlias.*

Dicksons, the "Royal" Nurseries, Chester.—*Bedding and Border Plants, Dahlias, &c.*

Covent Garden Market.—May 7th.

Average Wholesale Prices.—Fruit.

Average Wholesale Prices. Fruit.											
	s.	d.	s.	d.		s.	d.	s.	d.		
Apples, cooking, bush.	6	0	to	8	0	Grapes, Hamburgh, lb.	3	0	to 4	0	
„ Tasmanian ...	11	0		15	0	Lemons, Messina, case	10	0		12	0
Apricots, boxes ...	1	0		1	3	Oranges, case ...	10	0		25	0
Bananas ...	8	0		12	0	Pines, St. Michael's,					
Cherries, boxes ...	1	3		1	6	each ...	3	6		5	0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.	
Artichokes, green, doz.	2	0 to 3	0	Lettuce, Cos, doz. ...	3 0 to 4 0	
„ Jerusalem, sieve	1	6	0 0	Mint, doz. bun.	4 0	6 0
Asparagus, English, 100	2	0	2 6	Mushrooms, forced, lb.	0 8	0 9
„ Spanish, bun.	1	0	1 3	Mustard & Cress, pnnt.	0 2	0 0
„ Toulouse, „	2	3	0 0	Parsley, doz. bnchs. ...	3 0	4 0
Batavia, doz.	2	0	0 0	Potatoes, English, cwt.	3 0	4 0
Beans, French, lb. ...	0	9	0 10	„ „ new, lb.	0 4½	5½
Beet, red, doz.	0	6	0 0	„ Algerian, cwt.	13 0	0 0
Cabbages, tally	3	0	5 0	Radishes, doz.	0 9	1 0
Carrots, new, bun. ...	0	8	0 9	Seakale	1 0	1 3
Cauliflowers, doz. ...	2	0	3 0	Spinach, bush.	3 0	4 0
Corn Salad, strike ...	1	0	1 3	Sprue, French, dozen		
Cucumbers doz.	2	0	3 0	bunches	8 0	9 0
Endive, doz.	1	6	0 0	Tomatoes, Canary		
Herbs, bunch	0	2	0 0	consignment	4 0	4 6
Horseradish, bunch ...	1	6	0 0	Turnips, bnch.	0 6	0 8
Leeks, bunch	0	1½	0 2	Watercress, doz.	0 6	0 0
Lettuce, Cabbage, doz.	1	0	1 3			

Average Wholesale Prices.—Plants in Pots.

Most of the undermentioned plants are sold in 48 and 32-sized pots

	s. d.	s. d.		s. d.	s. d.
Acacia Drummondii,			Foliage plants, var, each	1 0	to 5 0
doz.	18 0	to 0 0	Fuchsias	8 0	0 0
Aralias, doz.	5 0	12 0	Genistas, doz.	6 0	8 0
Araucaria, doz.	12 0	30 0	Geraniums, dble., doz.	6 0	0 0
Aspidistra, doz.	18 0	36 0	Grevilleas, 48's, doz. ...	8 0	5 0
Boronia heterophylla,			Heliotropes	8 0	0 0
doz.	12 0	18 0	Hydrangea Thos. Hogg	10 0	12 0
Crotons, doz.	18 0	30 0	„ pink	10 0	12 0
Cyperus alternifolius			Lycopodiums, doz. ...	3 0	0 0
doz.	4 0	5 0	Marguerite Daisy, doz.	8 0	10 0
Dracæna, var., doz. ...	12 0	30 0	Mignonette	6 0	8 0
„ viridis, doz. ...	9 0	18 0	Myrtles, doz.	6 0	9 0
Erica candidissima ...	18 0	30 0	Palms, in var., doz. ...	15 0	30 6
„ Cavendishii ...	21 0	48 0	„ specimens ...	21 0	63 0
„ Persoluta ...	18 0	21 0	Pandanus Veitchi, 48's,		
„ ventricosa nana	18 0	21 0	doz.	24 0	30 0
„ „ coccinea	18 0	21 0	Pelargoniums, doz. ...	10 0	15 0
„ Wilmoreana ...	9 0	12 0	Primulas	3 0	4 0
Ferns, var., doz. ...	4 0	18 0	Shrubs, in pots	4 0	6 0
„ small, 100 ...	10 0	16 0	Spiræa japonica, 48's,		
Ficus elastica, doz. ...	9 0	12 0	doz.	6 0	8 0

Average Wholesale Prices.—Cut Flowers

	s. d.	s. d.		s. d.	s. d.			
Arums, doz.	3	0 to 4	0	Maidenhair Fern, doz.				
Asparagus, Fern, bnch.	1	0	2	0	bnchs.	4	0 to 5	0
Azalea mollis, bunch	0	6	0	9	Marguerites, white,			
Bouvardia, coloured,					doz. bnchs.	4	0	0
doz. bunches	6	0	8	0	,, yellow, doz. bnchs.	2	0	0
Carnations, 12 blooms	1	3	1	9	Myrtle, English, per			
Cattleyas, doz.	8	0	12	0	bunch	0	6	0
Cornflower, doz. bun.	1	0	1	6	Narcissus, Poeticus, doz	1	0	1
Croton foliage, bun. ...	0	9	1	0	Odontoglossums	4	0	0
Cycas leaves, each ...	0	9	1	6	Orange blossom, bunch	2	0	3
Cypripediums, doz. ...	2	0	3	0	Primula, double white,			
Daffodils, single, doz...	2	0	3	0	doz. bunches... ..	6	0	8
Eucharis, doz.	2	0	3	0	Roses, Niphetos, white,			
Gardenias, doz.	2	0	1	6	doz.	1	0	2
Geranium, scarlet, doz.					,, pink, doz.	2	0	4
bnchs.	4	0	6	0	,, yellow, doz. (Perles)	1	0	2
Gladiolus, white, doz.					,, Maréchal Niels ...	2	0	4
bunches	6	0	8	0	,, Generals... ..	2	0	4
Gypsophila, doz. bun.	6	0	8	0	Smilax, bunch	4	0	6
Iris, Spanish, doz. bun.	6	0	9	0	Stephanotis, doz. pips	2	0	0
Ivy leaves, doz. bun...	1	6	0	0	Stock, double, white,			
Lilac, French, white,					doz. bun.	2	0	2
bunch	3	6	0	0	Tulips, white, single,			
Lilium Harrisii	3	0	0	0	doz. bun.	9	0	12
,, lancifolium alb.	2	0	2	6	,, scarlet, single,			
,, l. rubrum... ..	2	0	2	6	doz. bun.	4	0	0
,, longiflorum	3	0	4	0	Wallflowers, doz. bun.	2	0	3
Lily of Valley, 12 bnchs	6	0	12	0				

EDITORIAL NOTICE.—Our readers can greatly assist in adding interest to the pages of "The Journal" by their kindly contribution of timely notes and notices, and at the present period of the year there may be photographic examples of well-grown fruit, &c., growing or otherwise, that would be worthy of reproduction. The Editor would be pleased to have such subjects for consideration and probable use. He does not guarantee to pay for prints unless by special agreement.



* * * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

DEAD BIRD WITH TICK ATTACHED (H. R., Kent).—See "W. G.'s" reply in Readers' Views page, under Willow Wren.

CATALOGUE OF GARDENING BOOKS (H. K.).—You should write to Wheldon, bookseller, Great Queen Street, London, W.C. He deals in gardening books, and has perhaps the largest trade list in the kingdom.

WATER MELON CULTURE (T. A. C. C.).—The cultivation of the Water Melon is very similar to that of ordinary Melon plants, being, however, of more rambling growth, and after the fruit is set requiring more copious supplies of water. Otherwise the culture is the same, not placing more than one plant in the centre of each light of a frame, thus every plant will have a growth space of 6ft by 4ft.

AURICULA FLOWER (Oakleigh).—The following is the answer returned by Mr. James Douglas, of Edenside, with regard to your flower:—"The Auricula sent is a true Auricula, not much removed from the type form Primula Auricula. It is coloured a much deeper yellow, but the paste (farina) is very much thinner. It is a pretty border flower, but lacks all the points of the florist type of Auricula.—J. DOUGLAS."

MIXING YELLOW CLAY WITH LIGHT LOAM FOR GROWING MELONS AND CHRYSANTHEMUMS (Ignoramus).—The yellow clay excavated from a depth of 4ft or 5ft, may, it having been exposed to the air for some time, or if dried and pounded, be mixed with light loam in the proportion of about one-fifth, or even to the extent of one-third, if, as you say, it is capable of being screened, and the loam is of a very light nature. The thing is to have it fine so as to readily and evenly mix with the loam.

CHARGING "WEED STING" WITH NEAT WEED KILLER (Idem).—It would not be safe to charge the implement with neat weed killer, unless of a strength to be so applied for destroying weeds on walks, though the small amount of the article liberated directly on the roots of Dandelions would not, perhaps, kill the grass to any great distance round where the liquid is applied. Suffice, we have found, is to use the weed killer in the "Weed Sting" at the same strength as killing weeds on gravel paths. It is always well to be on the safe side.

CANKER IN MARECHAL NIEL ROSE (T. Q.).—The canker is difficult to cure once it obtains a good hold on the stem, but if taken early, and the cankered part cut out, dressing the wound with Stockholm tar, thinned to paint-like consistency with paraffin oil, its progress will be arrested. The incisive treatment should be supplemented by a top-dressing of Rivers' canker cure:—Superphosphate of lime, 36 parts or lbs; nitrate of potash, 21 parts or lbs; nitrate of soda, 28 parts or lbs; and sulphate of lime 28 parts or lbs; mixed, applying 4oz. of the mixture per square yard in the autumn and again in the spring. It was propounded for canker in Apple trees, but it answers for that malady in other Rosaceous plants.

PROPER NAME OF VEGETABLE CALLED MERCURY (Mr. J. T.).—The Mercury of Lincolnshire is *Chenopodium Bonus-Henricus*, and has long been esteemed as a substitute for Asparagus. It is a perennial, and may be increased by division or seed. The ground should be rich, dry, and deeply trenched. Plants should be put out in April, 9in apart each way, or seeds sown in drills 9in apart, afterwards hoeing out to 9in distance asunder. As soon as the plants have ripened off, a dressing of leaf mould should be given, 4in to 5in in thickness. In spring of the first year, only a small quantity should be cut, as the plants would be too greatly weakened; but each subsequent year full crops will be had. During the period of vigorous growth, the plants are greatly improved by watering with liquid manure. Besides, the young shoots and leaves may be used as Spinach when young. The leaves, however, must not be too greatly gathered or the plants will soon become worthless. When properly grown the heads or young shoots should be almost as thick as the litue finger, and in gathering it should be cut underground, somewhat similar to Asparagus. Cutting generally commences in April and lasts until the end of June.

NAMES OF PLANTS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (J. Turner).—Yellow shrub was much withered; it

appears to be *Forsythia viridissima*. The other is Good King Henry (*Chenopodium bonus Henricus*). (J. Justice).—*Asystasia bella* (see separate note). (J. B.).—1. *Clerodendron splendens*; 2. *Rhaphis flabelliformis*; 3. *Magnolia Soulangeana*; 4. *Darwinia tulipiflora*. (L. T. S.).—1. *Amelanchier canadensis*; 2. *Cercis siliquastrum*, the Judas Tree; 3. *Ribes aureum*. (S.).—1. *Cœlogyne Massangeana*; 2. *Dendrobium nobile album*; 3. *Lælia Schilleriana*.

Nature Notes.

Two thrushes have chosen a hole in a gravestone in Driffild Cemetery for a nesting place in which to rear their brood.

Four Narcissi blooming on one stem is a floral freak now to be seen in an allotment garden at Wisbech. This ought to interest Mr. Wilks.

Almost every tree, except the Oak and the Ash, are in full leaf, or well forward in the bud-breaking process, and already the beautiful valley of the Clyde is beginning to take on its wonted mantle and impart its pleasing effects to the far distant landscape.—D. C.

An inverted flower pot on the lawn at the Finchley residence of Mr. Scammell, the Highgate Police Court missionary (says the "Daily Mail"), has been chosen by a pair of sparrows as a nesting place. Both birds enter and leave by the hole in the bottom of the pot.

Many persons who are visitors to Cromer, in Norfolk, and the neighbourhood will learn with regret that Sheringham Woods, one of the loveliest spots in Poppyland, have been closed to the public because, in spite of warnings, further depredations have been made upon the flowers.

Fruit growers in Cambridgeshire are making a good effort to prevent a wasp plague in the summer. At Willingham (says a daily paper) since the middle of April the village children have captured no fewer than 300 queen wasps, being stimulated to this novel form of chase by a reward of a halfpenny per wasp.

Saw my first swift on Saturday, 3rd inst., and any number yesterday, the 5th. The swift appears about ten or twelve days later than the house swallow—viz., about April 24 or 25.

Say, who, in the far land, taught you to know
That Spring would return, and it was time to go?

—ALICE BAKER, Petersfield.

I think I must have seen a similar insect in my garden the other day to the one mentioned in "Nature Notes" of your Journal, May 1. The short body of the insect (I should be sorry to catch one) was like brown velvet. It hovered over the flowers just like a hummingbird moth, and used its proboscis to extract honey from the *Arabis* which had attracted it, and also a number of bees. I have looked out for it on every fine morning since, but it has not appeared again. I should be much pleased to find out its proper name.—ELIZABETH O. PROUD.

We have noticed the same fly, too, on sunny days, and it cannot be confused. The long, very long proboscis, dark body, transparent wings, and the movements are all so distinct and attractive. In reference to the fly, we wrote to Mr. J. R. S. Clifford, well known to Journal readers, who writes to this effect: "Concerning the winged insect about which you query, judging from your brief description, I should have said it might be the hummingbird hawk, which does appear in the spring after hibernation, only I infer from your remarks that you know that species. The only other species I conjecture would be a bee hawk, *Macroglossa fuciforme* or *apiforme*. They have dark bodies and long tongues; the wings are transparent. But they seldom appear till May is well in."



The Corn Duty and Middlemen.

We note that farmers generally are expressing satisfaction with the re-imposition of the registration duty on Wheat, and the greater part of the agricultural organisations are passing solemn resolutions declaring Sir Michael Hicks Beach to be a public benefactor. This is all very well. No doubt the Chancellor of the Exchequer means well by agriculture; but we fancy that in this case his thoughts have been chiefly directed to the matter of the national ways and means. We also notice that there is an outcry in certain quarters against the prospect of dear, or, rather, dearer

bread, for 5d. or 5½d. per 4lb loaf could not be classed as a dear price, and the action of the millers and bakers in anticipating a rise in the price of Wheat by promptly raising the price of flour and bread has brought alarm into the minds of a large section of the community. It does not follow, however, that dearer flour necessarily means dearer bread, or, at any rate, not dearer in the same ratio, for we can show by figures that in the past the price of the baker's loaf has not regularly followed the value of Wheat.

This question is of great interest to farmers, for it is apparent that if the middlemen—the miller and the baker—take advantage of the duty and make it an excuse to take an extra profit without paying the farmer any more for his Wheat, the latter will get all the public kicks and none of the half-pence. It is not the old, but the new story—the ascendancy of the well-organised middleman. The ruling factor is the big miller. When there was a wind or water-mill in every village, millers were too numerous to be brought into combination. Since the milling has become centralised into large concerns, and into few hands, combination has become easy, until at the present time the price of flour is not ruled as it should be by the price of Wheat, but by the autocratic will of the committee of the Millers' Association. It is easy to see that if these people can artificially raise the price of flour, they can with equal facility prevent Wheat from increasing in value as long as there is sufficient supply in the market to meet present needs.

In 1839 the average price of Wheat was 70s. 8d. per qr; the price of the 4lb loaf was 8½d.

In 1849 the average price of Wheat was 44s. 3d. per qr; the price of bread was 6d.

In 1857 the average price of Wheat was 43s. 9d. per qr; the price of bread was 5½d.

In 1887 the average price of Wheat was 36s. 4d. per qr; the price of bread per 4lb loaf was 4¾d.

In 1893 the average price of Wheat was 25s. 5d. per qr; the price of bread per 4lb loaf was 5½d.

Last year the price of Wheat was 28s. per qr; the price of bread was 4½d. per 4lb loaf.

Under the influence of the new import duty, Wheat has risen 2s. and 3s. per qr; but it is still 5s. below the 1887 level. 36s. 4d. The millers and bakers, however, are not satisfied with the 1887 price of bread, 4¾d.; but have raised the price to 5d. in some districts, and 5½d. in others, whilst loudly threatening a further rise to 6d. The worst feature of this, as we said before, is that the great British public does not trouble itself to read market reports; but when it finds its breadloaf dearer, gives a growl, and imagines that the farmer must be getting bloatedly rich. Wheat would have to rise greatly in price for the farmer to get any real benefit immediately, for there is very little Wheat in the stackyards.

That a duty of 1s. per qr can *ipso facto* raise the value of Wheat by more than a shilling per qr seems, and must be, an absurdity, and there is reason to believe that the recent rise in value might have taken place just the same had no registration duty been included in the Budget. If that be the case, we may see Wheat keep its price, or go dearer still, in which case the short-sighted and unreasoning portion of the British public will indulge in a louder howl against the Wheat tax; but if the rise in price has really and truly been caused by trade and public scare at the imposition of the duty, we shall not have long to wait before we see prices return to, or nearly to, their old level. But that is only the price of wheat. Will the miller and baker reduce their prices as readily as they have raised them? In their own interest it is to be hoped that they will not. The miller will be especially unwise to take a temporary advantage of consumers, for otherwise it is quite possible, nay even probable, that the flour duty will be increased in the near future; but the nation will never consent to such a thing, after being warned in such a practical manner that assistance given to a home industry will be so used for selfish ends.

To show how little free trade there really is nowadays, we are informed that in many places millers are boycotted by the bakers' associations if they supply small quantities of flour to consumers. The bakers thus have the retail trade in their own hands, and charge sometimes as much as 8d. for a 3lb bag of fine flour, or at the rate of 3s. 2d. per stone of 14lb. At this rate the flour from a quarter of Wheat would realise 84s., or more than 150 per cent. profit for retailing. The offals would pay for the milling. We see it stated, as an excuse for disproportionate prices for flour

nowadays, that under the roller system the flour is finer, but a quarter of Wheat does not produce so much of it as it did under the old millstone system. So it may be, but a quarter of Wheat weighs 36 stones, and none absolutely disappears in the process of milling. If it does not come out as flour, it does as offal, and if there be 2 stones less flour and 2 stones more offal, the difference at 6d. per stone will only be 1s. If there be 27 stones of flour at 1s. 3d., equal 33s. 9d., and 9 stones of offals at 8½d., equal 6s. 4½d., a quarter of Wheat costing 31s. produces 40s. 1½d., or 9s. 1½d. for milling and profit. As small millers are keen enough to grind Wheat in small quantities for 5s. per qr, which includes profit on their labour and delivery in small lots, we see that at 1s. 3d. per stone, which is the lowest market value at present, the miller is making a very handsome profit.

Work on the Home Farm.

Last week everything was "a-blowing and a-growing," but, alas! the wind veered into the north-east, and we have been glad to don our overcoats for a time. To-day we have a change back again to milder conditions, and are glad of it. The cattle out on the bare pastures must have felt the bitter east wind severely. We can provide coats for ourselves, but not for them. Nature provides, or, rather, is willing to provide, coats for them, but not if we coddle the animals up in close and badly ventilated sheds. We make hothouse plants of them; they lose Nature's coat because they have no need for it. Then, because we are short of litter and food, or of money wherewith to buy them, we turn the poor things out to fend for themselves as best they can. Cattle which have been out in the open with but little grass to eat and nothing else, must be lower in condition than they were a week ago. He is a short-sighted farmer who grudges cake for his stock when there is such a rosy prospect for the meat trade.

Having got the Mangolds in we are ploughing the fallows. The surface is clean, and little rubbish comes up from below. The ploughs are cutting thousands of Thistles, and doing much good thereby. We are careful not to plough too wide, and we use shares with a good wing to them. The depth to which we go is 6in, and it is not too deep where Thistles are plentiful. Some of our friends will say, "Our land is shallow and stony; we cannot plough 6in." Well, plough as deeply as you can, but remember that Thistles are much at home amongst stones, and where there is a will there is a way. By going down to the rock we keep loosening it and bringing it to the surface, which is the best place for it if it is not too large in size. Stones on the surface are most useful in conserving moisture—a great point these droughty seasons.

The cold winds have cut the Barley a little on weak land, but not seriously, and a mild rain would soon mend matters. The surface is dry now, and favourable for harrowing the Clovers in where they are still to be sown, so the work had better be done. The harrows for this purpose should be very light. Some farmers use an improvised harrow, made of hedge bushings or light branches of whin. But failing a set of light harrows, take a few teeth out of the lightest you have, leaving just sufficient to stir the surface once.

Every lamb should now have its tail cut, and castration, where practised, should be completed. The ewes also must be well docked, as it will soon be fly-time. Besides, nothing looks worse than a flock of filthy, undocked ewes. It would be good policy to be liberal with cake in these cases also. Pastures are not good, and sheep in good condition are always ready for market. Some farmers make pens wherein to cake their lambs. We believe in letting the ewes have a share; they will not get it all—the lambs will see to that—but they will pass on in their milk to the lambs what they do not put on their own backs.

The ridge harrows must now be used among the Potatoes, especially amongst those planted early. The weeds will soon get strong and less easy to kill. If we bare any of the Potato sprouts the one-horse ridging plough will soon cover them up again, and complete a bit of good cultivation.

Sale of Butter Regulations, 1902.

The Board of Agriculture, in exercise of the powers conferred on them by section 4 of the Sale of Food and Drugs Act, 1899, do hereby make the following regulations:—(1) Where the proportion of water in a sample of butter exceeds 16 per cent. it shall be presumed for the purposes of the Sale of Food and Drugs Acts, 1875 to 1899, until the contrary is proved, that the butter is not genuine by reason of the excessive amount of water therein. (2) These regulations extend to Great Britain. (3) These regulations shall come into operation on the fifteenth day of May, One thousand nine hundred and two. (4) These regulations may be cited as the Sale of Butter Regulations, 1902. In witness whereof the Board of Agriculture have hereunto set their Official Seal this Twenty-second day of April, One thousand nine hundred and two.—T. H. ELLIOTT, Secretary.

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Journal of Horticulture.

THURSDAY, MAY 15, 1902.

On Fruit Production.

THE note of "Observer" on page 381 reminds me that there are two sides at least to every question or problem, and that some individuals are prone to look too much on the gloomy side, while others are perhaps just a little too hopeful. Observers may be divided into many types, but two stand out clearly from the others. Those who belong to one type take a limited view, but observe clearly so far as their vision extends. Those who constitute the other type take a broad comprehensive sweep, and see things not only as they are to-day, but also discern the possibilities for future development. I am not going to draw comparisons in regard to individuals, but must leave readers to judge to which of the many types "Observer" belongs. In my own mind I am absolutely certain that my critic's powers of observation have played him false in arriving at the conclusion that "fruit growing is extending quite as fast as the demand for fruit increases," i.e., if he refers to fruit grown in this country on the lines advocated in my previous article. I there referred to the great need of planting late Apples and certain varieties of Pears. I intend therefore to keep to that phase of the subject, and not mix it up with the production of soft fruits, which have to be disposed of quickly.

If the production of good Apples in this country is extending as fast as the demand for them increases, how is it that our imports continue to increase rather than diminish? That, too, in spite of the fact that a good deal of planting has been done during the last twenty years. "Observer" is evidently fond of mixtures, otherwise he would scarcely have attempted to mix up with this discussion the production of butter and eggs? What has

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that to do with fruit growing? His contention in regard to Apples seems to be that if they are largely planted they will cease to be profitable, and he tells us that some of the American Apples are sold in this country at 10s. or 12s. per barrel. Well, it is certain that if there is a profit at that price, then they can be grown here profitably at the same figure. Fruit growing stands on a totally different footing to Corn growing—in the cheap production of the latter crop machinery plays a most important part. In fruit growing the greater part of the work must be done by hand, and individual skill and energy counts for much. Wages, too, are higher in America than here, so we are certainly as favourably placed in regard to the cost of production as are our competitors.

Let us suppose for a moment that at one sweep all the rubbish could be cleared out of our markets, that at the same time all foreign supplies were cut off, and their place taken by six or seven million bushels of equally good English Apples. What would be the probable result? Why, certainly that if it affected the prices at all it would tend to make them higher. The net result to this country would be that we should retain in our own land several million of pounds which now each year we send abroad. Those millions of pounds would provide healthy and agreeable employment to vast numbers. The sooner such a state of affairs is brought about the better, and the question arises, How is it to be done? My answer is, By a long and a strong pull in which all work together for a common end.

I yield to no one in the desire to see hosts of prosperous fruit growers springing up in various parts of the country, and on page 359 I outlined a scheme which I fully believe could be put into practice with benefit to all parties concerned; but the capitalist is wanted just as much as the small grower. Where we hear, as we did last year, that on the other side of the Atlantic one wealthy landowner had planted six or seven hundred thousand fruit trees, how can we hope to meet such competition except by adopting similar methods ourselves? In this matter of Apple and Pear growing, however, there is room for all classes, as the gigantic task of growing our own supplies of Apples is one which deserves our most serious attention. The capitalist by planting largely would provide remunerative employment for hosts of workers, and many employed on large fruit farms could there gain excellent experience to befit them for taking up land on their own account. The special attention the small grower can give to fruit trees does much towards placing him on an equal footing with the large grower. The capitalist could also do much to forward the work of fruit growing by buying land, planting, and then letting it. For the above reasons I repeat there is a "crying need" for a "combined effort to plant on a big scale," and to that I will add, to combine in adopting suitable methods for disposing of the produce.—H. D.

Assisting Strawberries.

The period of the year is approaching when established beds of Strawberries require more assistance than the soil always affords. The oldest beds, if not more than a few years established, need the most attention; but it is useless to expend fertilising material on beds that have long since passed their best, as better returns can be obtained from younger plants. It is an easy matter to make a fresh bed each year, and thus always keep the stock in a vigorous and fruitful condition.

Just as the plants are throwing up flower stems is a suitable time to afford a dressing of artificial manure. A mixture of a general kind will prove beneficial to Strawberries, or a special manure may be employed when growth of the plants and special vigour needs imparting, so as to produce a better tone and colour of foliage. One of the best special manures for Strawberries at this season is nitrate of soda, at the rate of 1oz to the square yard. Make it fine by thoroughly crushing, and sprinkle it round the plants. This is a rapidly acting manure, and soon produces an effect. One dressing is usually sufficient. The general mixtures of manure may be spread over the soil at the rate of 4oz to the square yard.

Strawberries appreciate soot, which has a similar effect to nitrate of soda, though not acting so rapidly. When applied it is better to do so early in the season rather than defer the operation to a later period. The soil may be made black with it, using it at the rate of a peck per rod just before the advent

of a good shower if possible. Liquid manure is of great service to vigorous old plants, which have to a great extent deprived the soil of moisture as well as food. Where it is suspected, however, that dry conditions do prevail, it is important first of all to moisten the ground with clear water, then applying a liberal dose of liquid manure.

Mulching is another method of feeding Strawberries, and upon the whole one of the best. A liberal mixture of long and short farmyard manure contains much nutrition; indeed, all the food elements required are to be found in manure of this character. Those parts, too, which do not readily decay—for instance, the strawy parts—come in useful as affording a clean bed for the fruit to rest upon when ripe. For this latter reason, especially, mulching is practised in spring; but the soluble parts have their nutritive value washed out by rain and appropriated by the fibrous roots, of which Strawberries are usually well furnished. The decaying material in time forms a rich medium into which new fibres abundantly penetrate.—D.

Notes from Ireland.

May has come flushed with beauty, yet the keen east winds, suggestive of an earlier month, still prevail. Rain has fallen in considerable quantity, and was wanted, as the dryness of the previous month was above normal. Late frosts were absent. Though the new scenes are being shifted on the stage of Nature, alas! there is a sameness pervading the main features of our gardens. Noticeable on all sides are the pretty May flowering Tulips, and there are many new introductions in this class. My thoughts still linger about Cottage Maid, whether standing alone on a patch of sward, or hid in some nook, sheltered by a friendly tree or miniature shrubbery. Its white petals, splashed with a light crimson, claim attention against its newer rivals. It is a pleasing feature to see the cultivation of those bulbs gaining space among our gardeners, and naturalising efforts are being made in wild gardens and woods where walks abound. For these places the late flowering Tulips are almost a necessity. Their tall stems and substantial flowers speak in silence to those whose eyes love the highest beauty. I notice in Glasnevin, along the border of the greenhouse, one of the *Crinums* in flower, whilst the pretty little *Arenaria balearica*, a native of Corsica, has not only carpeted its bed, but hides it now with a mass of white flowers; whilst the *Arabis* is also full of flower. The varied *Iberises* are flowering freely; the mound at Glasnevin shows them to advantage. Planted close to them is *Saxifraga peltata*, a native of California, and presenting a mass of bloom. It can easily be discerned by the absence of foliage, which comes when the truss withers.

At Lord Ardilaun's charming gardens, situated at Clontarf, I noticed some very fine outdoor Primulas. Of these *Primula cortusoides* was in abundance. Its deep rose flowers, borne on high stems, is a desirable acquisition. A native of Siberia, though by no chance a new species, its culture is yet by no means as general as its merits deserve. *Arnebia ochioides* had also flowered, which is rather early, but conditions and climate have been favourable factors; and Mr. Campbell, his lordship's genial gardener, pointed out a Pansy, one of the gems of the lot. Madame Perrett, a massive flower, about 2in in diameter, stands well up, the petals being well expanded.

Our fruit prospects are by no means rosy. The persistent winds for some time past have left a deep impression. The ground is carpeted with fallen flower buds, and, while it is yet too early to forecast, there is a general impression that Cherries and Plums will be a remarkably light crop.

The Irish Gardeners' Association is evidently determined to persist, despite its varying fortunes. It has just finished its winter course of lectures, and the committee can look with pride to the fact that they carried out a good programme of lectures by our leading men, each of which was amply illustrated by lantern views. The summer course is now being organised, and, thanks to the generosity of Mr. Cottier, a prize of two guineas is offered to be awarded by the committee. This sum has been largely increased. The first competition is dated for June, the classes being Roses and Carnations. Although I do not wish to criticise their action, yet if medals were substituted for money prizes, those, it seems to me, would be more suitable. They would not only be lasting memorials, but links in the chain of affection by the members for their society. However this may be, one thing stands out prominently, and that is, that this society is doing a vast amount more good for the advance of horticulture in this island than their kindred society, the Royal Horticultural Society of Ireland, and, considering it is managed by gardeners for gardeners, their mode of working deserves credit. It is not only a benevolent society, but also a training school to our apprentices, giving them an opportunity during the winter months of gaining a knowledge of the scientific work which is not always available to those who enter the horticultural profession.—A. O'NEILL.



Cypripedium × Emperor of India.

It is more than likely that people would object to such an exceedingly large flower as that of *Cypripedium* × *Emperor of India*. We said, on describing it at page 370 on April 24, that this is "the largest *Cypripedium*, perhaps, in cultivation," and we let the statement stand. The enormous dorsal sepal is 2½ in

as possible, amateur growers are apt to overtax their plants by leaving the flowers too long on them, thus weakening them for another season. This is a great mistake, for a weak plant may be killed outright, and a strong one badly weakened, by leaving them to bear the strain of flowering too long.

As long as they are left upon the plants the flowers must be preserved in as good a condition as possible by keeping the atmosphere slightly drier than usual, and allowing a little top air day and night to prevent moisture condensing on the glass and causing a drip. Watering at the roots must go on as usual, studying the state of each plant individually, as well as the wants of the species. The autumn flowering section, of which *O. grande* is a well-known member, should by now be showing signs of movement, but there need not be any hurry to push the water supply yet; they must not be dry, of course, but an overdose of moisture has been the ruin of scores of young growths and leads.



Cypripedium × Emperor of India.

broad or more, and the depth is certainly much greater than the breadth. The long petals are green and purple-brown at the base, having also black spots upon them. The lip is also brown and very large. Our illustration is from a sketch made in the Drill Hall, when an Award of Merit was given to Messrs. Sander and Sons for it, on April 22. The parentage was unrecorded.

The Week's Cultural Notes.

Just now the cool or *Odontoglossum* house is very attractive owing to the large number of species in flower. Many of the varieties of *O. crispum*, *O. luteo-purpureum*, *O. triumphans*, *O. Pescatorei*, and a host of others are daily opening, and these make a brave show. In their anxiety to prolong this display as much

Wherever it can be arranged, *Masdevallias* should have a house or a separate corner to themselves. They require a large amount of atmospheric moisture to combat the attentions of their inveterate enemies, the thrips. These pests are seldom altogether absent from a collection of *Masdevallias*, but they may be kept under by care. If allowed to get the upper hand the flowers will be ruined as fast as they open. Where the *Chimæra* and *Backhousiana* sections have been removed to warmer winter quarters they may be now returned to their proper house, suspending the baskets as close to the light as possible, but shading from bright sun.

The Dove Orchid (*Peristeria elata*) is very active now, and plants repotted lately will be rooting very freely in the new compost. Some growers give a summer top-dressing of sphagnum

moss to this and kindred species to conserve moisture and the very frequent application of water, these having a tendency to fine down the compost. The plants like a shady position in a warm and moist house, and when growing freely will give little trouble.—H. R. R.

Points for Exhibitors.

The Woking Horticultural Association published its annual report and statement of accounts for 1901 a short time ago, and with that report (which is very satisfactory) they include some hints to exhibitors drawn up by Mr. J. Wright, V.M.H., County Instructor on Horticulture to the Surrey County Council. These we print hereunder for others' guidance. We must mention that in regard to the finances of the Woking Horticultural Association there was a gain on the previous year, the total balance being £27 8s. 7d., as against £19 13s. 9d. in 1900. The hon. secretary is Mr. M. Rose, Elm Villa, Woking Village, Woking.

Faults and Merits in Produce at Shows.

1. If anything is so overgrown as to be coarse, that is a fault.
2. If anything is too small to be useful, that is a fault.

POTATOES.—Very large and unshapely, specked, or deep-eyed tubers, or those very small, *defective*. Well-shaped, even-sized, clean, speckless tubers, with shallow eyes, *meritorious*.

TAP ROOTS (BEET, CARROTS, TURNIPS, AND PARSNIPS).—Crooked, fangy, cankered roots, whether large or small, *defective*. Smooth, straight, clean, well-coloured even-sized roots, *meritorious*.

ONIONS.—Large bulbs, if thick necked, soft and maggoty, *defective*. Bulbs all of good even size, firm, sound and clean, with thin stems or necks, *meritorious*.

LEeks.—Stems thin, tapering, soft, not well blanched, discoloured, *defective*. Stems thick, uniform, firm, well blanched, spotless and pure, *meritorious*.

PEAS AND BROAD BEANS.—Very large pods if hollow (not filled), or pods brown with age, containing hard seeds, *defective*. Pods of good size, green, fresh and well filled with tender seeds, *meritorious*.

KIDNEY BEANS (DWARF OR RUNNER).—Pods brown or pale in colour, thin, tough or stringy, even if large, *defective*. Pods of good size, fresh, green, fleshy, and brittle; *meritorious*.

CABBAGES.—Hearts, no matter how large, if soft on the one hand, or split on the other, or caterpillar eaten, *defective*. Hearts of good size, firm, yet fresh and tender-looking, and surrounding leaves perfect, *meritorious*.

CAULIFLOWERS.—Heads, however large, if brown or yellowish and beginning to open, *defective*. Heads of good or medium size, close, speckless, white and clean, *meritorious*.

LETTUCES.—Heads loose and soft on the one hand, or pushing flower stems on the other, and leaves tough, *defective*. Heads firm, fresh, with no visible flower stems, leaves crisp and tender, *meritorious*.

CELERY.—Stalks thin, soft, specked, not well blanched, and flower stems pushing in the plants, *defective*. Stalks thick, firm, crisp, speckless, clean, well blanched, and no flower stems visible when cut, *meritorious*.

CUCUMBERS.—Fruits old, unshapely, irregular in size, soft, yellowish, with long neck and nose, *defective*. Fruits young, straight, firm, fresh, tender, green, even in size, short neck, and nose with flower adhering, *meritorious*.

TOMATOES.—Fruits deformed, irregular in size, rusted, over-ripe and dingy, or unripe and green, *defective*. Fruits of good and even size, speckless, bright and glossy, *meritorious*.

RADISHES.—Roots old, spongy, tough, and flower stems showing, *defective*. Roots young, firm, crisp, clear, leaves close to the root, no flower stem showing, *meritorious*.

VEGETABLE MARROWS.—Fruits unshapely or if so old, whether large or small, that the rind resists the pressure of the thumb nail, *defective*. Fruits good or medium size, well matched, well shaped, tender enough to admit the thumb nail, *meritorious*.

RHUBARB.—Stalks crooked, irregular, hard, dry and rusty in appearance, *defective*. Stalks straight, uniform, well coloured and fresh, *meritorious*.

HERBS.—Bunches brown, dry, withered, mildewed, or rusty, *defective*. Bunches green, fresh, with good clean leaves, *meritorious*. N.B.—So far as possible every exhibit should be properly named.

Points to be Remembered by Exhibitors.—1, Judges at shows always search for faults. 2, Mixing large and small specimens together in a dish weakens the exhibit. 3, Specimens with the fewest faults win the highest prizes. This applies to flowers and fruits as well as to vegetables. 4, Celery and roots for the show table are often injured by scrubbing with a hard brush instead of washing with a soft one or a cloth. 5, Exhibitors who fail to win prizes should search, calmly and patiently, for the cause of the failure. The losers of to-day, who profit by experience and persevere, are the winners of the future. 6, Experienced and unprejudiced judges have only one desire—namely, to do justice. 7, There is more honour in exhibiting well in a strongly contested class and losing, than in winning a prize with weak products in a class in which there is little or no competition.

Literature.

"Cyclopædia of American Horticulture."¹

As each of the volumes of this master production was issued, we have taken the opportunity of notifying our readers of the fact. In our first review we wrote commending the pioneer volume, and have become more strengthened in our good opinion of the publication as time passed and successive parts appeared. And now the last is with us. The editor, Professor L. H. Bailey, furnishes a delightfully interesting "Retrospect," which supplies information of the methods by which the Cyclopædia has been produced, and of the resources at command. This Retrospect is sub-divided thus: (1) The project; (2) The office details; and (3) How a genus is written up. Some lines are expressed in regard to Prospect—i.e., the future of the work. So far as the "Cyclopædia of American Horticulture" is concerned, the editor had resolved and reviewed the enterprise for more than ten years. The first steps taken toward securing such a standard work as the present one was the publication of "Annals of Horticulture for 1889," and annual volumes followed on the same lines, these being a witness of passing events and a record of progress. They paved the way; facts and statistics became orderly arranged, and gave experience to the editor. Out of these efforts grew Professor Bailey's volume, "Sketch of the Evolution of Our Native Fruits," and so on. A comprehensive horticultural library had to be collected, and a whole army of the practitioners had to be enrolled in the service, to write articles on special subjects of which they had unqualified experience. "It was desired," says Mr. Bailey, "that the Cyclopædia be new—brand-new from start to finish." The illustrations were to be newly made; the cultural suggestions written directly for the occasion from American experience and from original sources. Hitherto there has been too much reliance on books written by Europeans and Old World practitioners; the "Cyclopædia of American Horticulture" once for all dispenses with the need for such assistance. It is a record of the state of Horticulture in North America at the opening of the twentieth century, and an invaluable record on that account, even if, as has been suggested, America is not yet ripe for such a ponderous and embracing compilation. A complete set of the *Journal of Horticulture* was included in the reference library.

It would occupy more of our space than can be given to follow the Professor through the whole of his Retrospect, but the book, at the price of one guinea, is within the reach of most people, and ought to be secured. The engravings are very numerous; indeed, it has been an inviolable rule that wherever the book opens an engraving will be seen. The number of half-tone full-page plates, too, is large. Beginning at "Radish," and concluding "Zygopetalum," volume iv. comprises 529 pages, each closely set in small but distinct type, and measuring 7½ in broad by 10½ in long. Where necessary, the same subject is treated of by different experts representing different States, where, of course, conditions of treatment vary with latitude and longitude. The individual States are the subject of special statistical and critical essays.

The genera and species are treated according to an original key-scheme, and not alphabetically, which pursuance is somewhat confusing till one becomes acquainted with its working, and then, no doubt, it is a help. Professor Bailey hopes that this Cyclopædia will never be revised. It is hoped that subsequent progress may be recorded in annual volumes, and that if new issues of the original ones are called for, mere errors should be corrected; but beyond this, the plates should be left as they are.

"The Book of the Rose."²

The hearty reception of the first edition of Mr. Foster Melliar's book has led to the production of edition two, which has been thoroughly revised. The very welcome twelfth chapter, entitled "Manners and Customs," has practically been re-written, for, as the author candidly remarks, "Seven years' additional experience should certainly bring a little further wisdom." This "Manners and Customs" chapter is a criticism of the qualities or lack of them, of a large number of varieties of Roses. "Among Roses there are a great many 'little ways' belonging to different tribes, families, and individual varieties, and many an otherwise excellent sort has a nasty habit of doing this or that or the other which just prevents its being as good as it might be." The following is a sample paragraph of Mr. Foster Melliar's appraisal of the H.P. variety Charles Lefebvre:—

"Charles Lefebvre (Lacharme, 1861).—Synonyms, Marguerite Brassac and Paul Jamain. Of strong growth, with stout, stiff, smooth wood and fine foliage, requiring strong soil. The secondary

¹ "Cyclopædia of American Horticulture," by L. H. Bailey, assisted by Wilhelm Miller, Ph.D. Fourth volume, R-Z. Macmillan & Co., Ltd. 21s. net.

² "The Book of the Rose," by Rev. A. Foster Melliar, M.A. Second edition, 1902, with thirty-three illustrations. London: Macmillan & Co. Price 6s. net.

shoots are much stronger than the early ones, and on cut-backs the latest blooms of the first crops are generally the best, the first buds being much liable to injury from cold nights in May. More liable to orange fungus than to mildew, and can stand rain pretty well. The flowers generally come good, fine in petal, centre, and size, lovely in colour, very fragrant, and beautifully round and smooth in appearance. The shape is open and semi-imbricated, which is very effective, but not a good form to last. I have a good report of it from Australia, but a bad one from America. Free in bloom and a good autumnal. This is the G.O.M. of the dark crimson Roses. Longfellow's 'Hiawatha' metre always seems to me to suggest

"Charles Lefebvre, the king of Roses."

We count ninety-three varieties of Hybrid Perpetual Roses that are thus treated; then follow the Teas and Hybrid Teas. The book opens with an interesting history of the Rose, and the classification will prove useful to many. In his chapter on planting and laying out beds, much succinct advice of that chatty, friendly, and experienced character that is pronounced in the author is found, and, under "Soils," he discusses the clay soil, the sandy soil, the chalk, and others. "No one need give up in despair who has even a poor gravel soil," says Mr. Foster Melliar. Manures, pruning, pests, Roses under glass, exhibiting, stocks, propagation, selections of varieties, and a calendar of operations, form the matter for other highly interesting and useful chapters. We feel we must abstain from selecting any "points" out of these chapters, for they are full of just that information the rosarian most ardently desires and requires. To read Mr. Foster Melliar is just like walking round his beautiful garden at Sproughton on a sunny summer's day, with himself as guide, which is an experience full of pleasure. The illustrations, the typography, the paper, and the book as a whole, is one that commends itself to all lovers and growers of the Queen of Flowers.

The Journal of the Royal Horticultural Society.

Briefly we referred to the arrival of the above on our last printing day, this issue representing part 4 of volume xxvi. Besides the Common-place Notes by the Rev. W. Wilks, M.A., the Society's secretary, and Mr. S. T. Wright, the garden superintendent, and the Abstracts, Reports on Trials at Chiswick and various notices, the following articles are printed in this latest volume: "Fungus Pests of the Carnation Family," illustrated by two coloured plates, the first we remember seeing in the Society's Journal. This would mark an advance. Following this article, which is by Dr. Cooke, M.A., come three short essays on "Hardy Fruit Culture in various parts of Scotland." Mr. Massee's concise contribution, entitled "Plant Diseases," is very useful reading. We had the privilege to attend the delivery of the lectures at Chiswick, of which this essay in the R.H.S. Journal is a summary. It is amply illustrated, and gardeners in the country would do well to secure "Part 4" and study the remarks of one of the foremost mycologists of the moment. "Whole Fruit Preservation," by Mr. J. E. Austin, is disappointing, in view of the fact that no serviceable information on how to preserve is forthcoming from him. Notes on the bottling process are appended by a Mr. de Luea, of Aldersgate Street, London.

Captain Hurst, F.L.S., discusses "Mendel's Law and Orchid Hybrids"; Mr. J. Gurney Fowler, the treasurer, treats of Hybrid Orchids, this being a valuable record of a list of Orchids used in the fertilisation of hybrids which have received either First Class Certificates or Awards of Merit from the R.H.S. to December 31, 1901, and will be a ready guide to hybridisers. Twenty-eight pages of names are the result of Mr. Fowler's industry.

Mr. Newstead, the able curator of the Chester Museum, keeps us up to date on the subject of "Insecticides"; and Mr. J. Forsyth Johnson emphasises the utility of a "Public Horticultural Garden" for experiments, &c. There are other essays on scientific and practical subjects, each of the utmost interest and value. The volume is undoubtedly one of the brightest and best that could be secured to horticulturists and others at the price—viz., 7s. 6d. to non-Fellows. Those who are Fellows obtain copies gratis, and post free.

"Practical Botany for Beginners."¹

An essentially practical little book, serving the great army of science teachers or students as a valuable self-instructor. It is a book that begins at the beginning and goes to the end of the scale of botanical "types," and teaches the user of it what to look for when he has the various type-plants that are referred to, under his lens or his microscope. The authors begin with the higher plants, however, and work down the scale to the Bryophytes and Thallophytes. The book contains in an abridged form the more essential parts of the text of their larger "Course of Practical Instruction in Botany." It is intended essentially as

a guide to the student's first steps in laboratory work, and this must be borne in mind. Not the least useful are the preliminary instructions on preparing material for the microscope, its mounting, staining with micro-chemical reactions, and manipulation of the microscope. Books that are so easy to follow, and which really lead one on, and teach practical botany, are remarkably rare, and that is why we welcome this primer of 307 pages.

"Pictorial Greenhouse Management."¹

By the issue of this serviceable little book on the culture of plants and routine work of the greenhouse, Mr. Walter P. Wright completes the quadrate of the art of horticulture, for he has also furnished similar works on vegetable and fruit growing, and another on general practical gardening. The style of the books is such that the least experienced can read and understand them—can put their teaching into actual and safe practice right away, while even those who are not inexperienced can discover much that is of value and interest within the covers. As the name suggests, the book before us is illustrated, and this largely with simple yet effectual pen and ink sketches, detailing the various processes of seed-sowing, the pruning of indoor shrubs, stopping of Chrysanthemums, pricking out seedlings, potting, inserting cuttings, dividing plants, and other operations. Along with these sketch illustrations, which are very numerous, there are photographic representations of good varieties of greenhouse plants. The months of the calendar and the flowers typical of them are successively treated, and the hints thus given entail 94 pages of the 140 that comprise the book. Other chapters are devoted to The Greenhouse always Gay, Practical Matters, The Heating Problem, Glass Structures, Propagation, Soil, Watering, and other tables; while the concluding chapter furnishes an alphabetical list of plants, with culture and selection of varieties, prepared in tabular form. An index is also provided.

Turnips.

The Turnip belongs to the Brassica family, which is indigenous to England and other parts of the United Kingdom, but high-class cultivation had not been given to it until the countries of Flanders and Holland sent over improved varieties, thus inducing cultivators to pay more attention to it. The varieties in cultivation now are all high class, but some possess more merit than others. The white varieties, such as Early Snowball, are considered of superior merit, but some prefer the yellow-fleshed Turnips, which are undoubtedly good when well grown.

Success in Turnip growing largely depends on securing favourable weather from the time the seed is sown until the plants are well established. The seed germinates very quickly in moist ground, but the seedlings are very liable to suffer in the early stages from attacks of fly. It is, therefore, absolutely necessary to sow seed on well prepared ground—that is, ground that has been dug deeply and is in a fertile condition. Such ground will retain moisture and provide food for a longer period than ill-prepared soil of a shallow, poor character. The great essential in the cultivation of Turnips is a steady, quick growth. To ensure this, break up the surface well, making it fine, and form shallow drills, in which may be scattered a dusting of superphosphate, which is a capital manure for Turnips in the early stages, as it accelerates growth just at the period when the slightest check to growth almost invariably results in an attack of fly.

During a dry, hot period it is no uncommon thing to see seedling Turnips perforated through the seed leaves to such an extent as to destroy half the green tissue, and thus cause a check to growth of a serious character. Lack of moisture and poorness of soil are the causes of this. It may be averted by the timely preparation alluded to, affording moisture by watering overhead, and giving dustings of soot. If the sowing can be accomplished just before rain all the better, or in showery weather. During a very dry time water three times weekly. This may save the plants from the attacks of fly.

Thin the seedlings as soon as possible after three leaves have formed to 8 in apart. Maintain the ground clean by frequent hoeing, which also promotes growth, and continue to do so until the plants meet in the rows. The opportunity may be taken also to promote growth by occasional dressings of artificial manure, which may be hoed in. Where tender Turnips are largely in demand small sowings ought to be made at fortnightly intervals, especially during the hottest and driest months of the year.—E. D. S.

¹ "Practical Botany for Beginners," by F. O. Bower, D.Sc., F.R.S., and D. T. Gwynne-Vaughan, M.A. Second edition. Macmillan & Co. Price 3s. 6d.

¹ "Pictorial Greenhouse Management," illustrated, by Walter P. Wright, Cassell & Co., Ltd. 1s., or in cloth 1s. 6d.

NOTES & NOTICES

Hampton Court Grounds.

Another portion of Hampton Court is to be thrown open to the public. It has been known hitherto as the "Frame Ground."

The Codlin Moth.

This dire pest, whose larvæ renders thousands of Apples unfit to be eaten by humanity, will soon be on the wing, laying eggs on the Apple flowers. Spraying with Paris green (4oz per barrel of water) just after the flowers have set, will greatly tend to destroy larvæ or even prevent egg laying.

Crystal Palace Fruit Show.

The Royal Horticultural Society's ninth annual show of British-grown fruit will be held at the Crystal Palace on September 18, 19, and 20. The prize schedule is now ready, and contains, in addition to the list of prizes, an authoritative list of dessert and cooking Apples, Pears, and Plums. Special prizes are offered for preserved and bottled fruits. Copies can be obtained on application to the Secretary, R.H.S., 17, Victoria Street, London, S.W. Applicants should enclose a penny stamp.

Royal Horticultural Society.

The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, May 20, in the Drill Hall, Buckingham Gate, Westminster, 1 to 5 p.m. A special exhibition of Tulips will also be held, under the auspices of the National Tulip Society, at the same time and place. A lecture on the "Origin and Properties of the English Tulip" will be given by Mr. A. D. Hall, F.R.H.S., at 3 o'clock. At a general meeting of the Royal Horticultural Society, held on Tuesday, May 6, sixty-eight new Fellows were elected, amongst them being the Countess of Bective, Baroness Deichmann, Lord Ludlow, Lady Birkbeck, Lady Glyn, Hon. Mrs. Bevan, Hon. Mrs. McLean, W. H. Upjohn, Esq., K.C., and Major C. A. Gordon Clark, making a total of 520 elected since the beginning of the present year.

Temple Flower Show.

Intending exhibitors are requested to note that entries for the above show close on Tuesday, May 20, and that all entry forms bearing a later post mark will be liable to refusal. No plants can under any circumstances be entered on the day of the show, but single plants for certificate may be entered as late as Friday, May 23. Address, Secretary, R.H.S., 117, Victoria Street, London, S.W.

In regard to the Sherwood Cup Competition for a collection of hardy ornamental trees and shrubs, intending exhibitors are requested to note that all groups competing for the Cup will be staged in the open air, and must not occupy more than 500 sq ft, but the actual space to be allotted to these groups cannot be decided until the number of competitors is known, as the space at command is limited and must be divided equally. Tuesday, May 20, is the last day for entering.—W. WILKS, Secretary. By order of the Council.

Reigate's Park.

Mr. George Taylor, of Margery, has presented a park to Reigate in commemoration of the Coronation, which is situated on Colley Hill, about half a mile from the station, and overlooking the town. It is approached by beautiful wooded walks, one being the celebrated Pilgrim's Way. The view from the park is quite equal to that from Box Hill. It extends for fifty miles, and eleven counties can be seen. The hill has an old fort upon it, which was constructed at the time of the threatened French invasion in 1805, and at the bottom there is a cave running under the hill for half a mile. This cave is really an old stone quarry, from which came the stone used in building Windsor Castle and many of the churches in the county. On the north side the park is protected by the Margery Wood of eighty-two acres, which greatly adds to the beauty of the situation. The Colley Hill is justly celebrated for its great beauty, and it will, no doubt, become as popular with Londoners as Box Hill.

Leamington Spa Flower Show.

This has been arranged (together with illuminated concerts) to be held in the Jephson Gardens on Wednesday and Thursday, July 23 and 24. Mr. A. J. Nichols is secretary.

Photograph of Mr. Mawley and his Dahlias.

From having been uninformed on the point, we omitted to mention last week that the photograph of Mr. E. Mawley and his Dahlias on page 409 was taken by Mr. J. T. Newman, photographer, Great Berkhamstead.

The Kew Guild.

The annual general meeting will be held on the 27th inst. in the Phoenix Saloon, Holborn Restaurant, at 6.30 p.m. The annual dinner of the Guild will take place on the same evening in the Royal Venetian Chamber, Holborn Restaurant, at 7 o'clock, J. G. Baker, Esq., F.R.S., in the chair. Tickets, price 5s., may be had from the Secretary, Mr. W. Watson, if applied for not later than the 21st inst.

The Balance of Nature.

Sir W. Thiselton-Dyer, F.R.S., sends to "Nature" a striking example of disturbance of the balance of the organic world, furnished by the experience of Australasia. The Sweetbriar was introduced into Tasmania, and became apparently too abundant. Goats were put upon the land with the idea that they would eat down the briars and ultimately eradicate them. But, says Mr. Weston, a veterinary surgeon of Launceston, Tasmania, "the briars came out best and eradicated the goats." The hairy linings of the fruit of the Sweetbriar killed the animals, as they did also a number of cattle. Thus, simply, in a wholly unforeseen way, a serious element has been introduced into Tasmanian agriculture. Goats themselves are terrible disturbers of Nature's balance. They have entirely destroyed the native forests of St. Helena, consisting of 100 distinct species of trees and shrubs.

The Coronation Rose Show.

We have received the following notice for exhibitors, regarding the Show to be held at Holland House, June 24 and 25.—(1) The only entrance and exit for carts and vans is in Melbury Road; (2) Exhibits will be admitted from noon to 8 p.m. on Monday, June 23, and from 4 a.m. to 9 a.m. on June 24; (3) Exhibitors are particularly requested to warn their drivers to be careful to keep off the cricket pitch; (4) All classes of plants, flowers, and fruit may be exhibited at this Show, but no Roses may be included in any miscellaneous or mixed groups—Roses (except for Certificate) may only be shown under the schedule; (5) Applications for space must be made not later than Tuesday, June 17; (6) The Roses will be judged by special Rose judges, whose awards will be final; (7) The judging of other groups will be on the same system as that which obtains at the Temple; (8) The rules and regulations applying to the Temple, and to be found on pages 66, 67, and 68 of the Society's "Arrangements, 1902," and numbered 1 to 16 inclusive, will be in force at the Holland House Show.—W. WILKS, Secretary. By order of the Council.

Committee on Forestry.

The departmental committee appointed by the President of the Board of Agriculture to inquire into and report as to the present position and future prospects of forestry in Great Britain held further sittings at St. Stephen's House, Westminster, last week. Mr. R. C. Munro-Ferguson, M.P., was in the chair, and the other members of the committee were also present—viz., Sir John Rolleston, M.P., Mr. E. Stafford Howard, C.B., Dr. W. Schlich, C.I.E., F.R.S., Lieutenant-Colonel F. Bailey, Professor J. R. Campbell, Mr. J. Herbert Lewis, M.P., Mr. George Marshall, and Dr. W. Somerville. The following witnesses gave evidence: Lieutenant-Colonel F. Bailey, Lecturer in Forestry at Edinburgh University; Mr. J. T. Maxwell, of the Local Government Board for Scotland; Mr. P. G. Craigie, Assistant Secretary to the Board of Agriculture; Dr. W. Somerville, Assistant Secretary to the Board of Agriculture; Mr. C. O. Minchin, of the Board of Inland Revenue; and Mr. A. D. Webster, representing the Royal Horticultural Society; Mr. James Michie, representing the Highland and Agricultural Society of Scotland; Dr. H. Marshall Ward, F.R.S., Professor of Botany in the University of Cambridge; Mr. Joseph Parry, M.I.C.E., Water Engineer to the Liverpool Corporation; and Mr. M. F. Roberts, Assistant Engineer to the General Post Office.

Appointments.

A. D. Hall, Esq., Principal of the South-Eastern Agricultural College, Wye, Kent, has been offered, and accepted, the position so long occupied at Rothamstead by the late Sir J. H. Gilbert, Bart. * * Mr. William Sibbald, for the last three years foreman at Ballikinrain Castle Gardens, Balfron, Scotland, has been appointed head gardener to Lord Buckinghamshire, Fordell, Fife, Scotland. He takes up his duties on the 29th of the month.

Bentle's Mildew Specific.

In your issue of the Journal of the 8th inst., page 407, your correspondent "R. P. R.," in his observations on the lecture given by me before the members of the Liverpool branch of the National Amateur Gardeners' Association, says: "Touching the question of mildew, he advocated as the best remedy Bentley's sulphide of potassium." I did certainly mention sulphide of potassium, but not as the best remedy. What I particularly recommended was Bentley's Mildew Specific, which does not leave any objectionable markings on paint, &c., as does the sulphide.—B. A., Lathom Park Gardens, Ormskirk.

United Horticultural Benefit and Provident Society.

The usual monthly committee meeting of this Society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday evening last, Mr. Joseph Wheeler in the chair. The minutes of the last meeting were read and confirmed. Nine new members were elected, making fifty-three this year. Three members were reported on the Sick Fund. The death certificate of the late Mr. John Crawford was produced, and £18 1s. 11d., being the amount standing to the late member's credit, was voted to the widow, also a cheque for £5 from the Benevolent Fund, this being considered a very urgent and deserving case for assistance. The annual premium for the secretary's guarantee was directed to be paid; an order was also granted for new contribution books. A cordial vote of thanks to the chairman ended the meeting.

Library of Park Literature

George A. Parker, superintendent of Keney Park, Hartford, Conn., U.S.A., says an exchange, has been collecting and compiling park reports and valuable park statistics for a number of years, and now possesses what is unquestionably the most extensive special library of this class of literature in the world. Mr. Parker is an enthusiast in this sort of work, which is, indeed, a labour of love, his only object in getting together this vast amount of material being the ambition to preserve it in such a complete and practical shape that it shall be readily available for reference or educational uses. The library, which is rapidly growing, now almost fills two large rooms. Everything is classified in the most systematic manner. Painstaking industry and a rare aptitude for such methodical work are plainly evident. Mr. Parker is chairman of the committee of the American Park and Outdoor Art Association on Park Census, and is also secretary of the Association of New England Park Superintendents.

Losses from Plant Diseases.

Enormous losses are incurred every year by the diseases of plants. Ireland's Potato blight brought ruin and famine. The remedy for that trouble is probably the selection of the fittest varieties, and occasional change of these. It is reckoned that the Wheat rust costs Australia £3,000,000 annually. In 1882 the Hop-aphis lost to Kent and Sussex about as much; in India the same enemy is responsible for £90,000,000 damage year by year. Incalculable losses were caused to France by the phylloxera. Ceylon's coffee industry was ruined by a leaf disease, and America used to suffer from insect maladies to the extent of forty to sixty millions sterling per annum. But the Americans have vigorously combated the foe, much to their advantage. They spend £600,000 a year, employ a large staff of experts, and prevent and extirpate epidemics. Mr. J. B. Carruthers pleads in the current number of the "Contemporary Review" for more plant sanitation in this country. "The mortality in human beings and domesticated animals would be far higher in Britain if the laws with regard to notification and treatment of fever, small-pox, pleuro-pneumonia in cattle, swine fever, &c., were not enforced. There is little doubt that if the Board of Agriculture initiated similar measures to protect crops, in a short time those benefited would recognise their value, just as has occurred in other countries."

Weather in the North

The wind during the past week remained almost persistently in the north and north-east. On two mornings the hills around were whitened well down their slopes, and on the morning of the 10th 4deg of frost were registered, with very dense rime. From some quarters 8deg and 10deg are reported on the same date. Sunday and Monday, as well as Tuesday morning, although bright were bitterly cold.—B. D., S. Perthshire.

Royal Meteorological Society.

At the ordinary meeting to be held in the rooms of the society, 70, Victoria Street, Westminster, S.W., on Wednesday, the 21st inst., at 4.30 p.m., the following papers will be read: "Report on the Wind Force Experiments on H.M.S. Worcester and at Stoneness Lighthouse," by W. H. Dines (President of the Royal Meteorological Society) and Captain D. Wilson-Barker, F.R.S.E.; "The Cornish Dust Fall of January, 1902," by Hugh Robert Mill, D.Sc., LL.D., F.R.S.E. Tea and coffee will be served from 4 to 4.30 p.m.—W. MARRIOTT, Assistant Secretary.

Sussex Weather.

The total rainfall for the past month at Abbots Leigh, Hayward's Heath, was 1.03in, being 0.68in below the average. The heaviest fall was 0.37in on the 22nd. Rain fell on nine days. The maximum temperature was 67deg on the 25th, the minimum 28deg on the 7th. Mean maximum, 56.25deg; mean minimum, 37.13deg; mean temperature, 46.69deg, which is 0.43deg below the average. With the exception of a short period, from 16th to 25th, this month has been dry and cold, the wind blowing from the north eighteen days. Frost was registered on six mornings, but, with the dry state of the atmosphere, no harm has been done. May has come in a little more unsettled, with some slight showers on the 2nd.—R. I.

Publications Received.

"Cassell's Dictionary of Gardening," Part 12, 7d. net. This part begins at Mammillaria, and ends at Mutisia. A coloured plate of Strelitzia reginae provides a frontispiece. * * "Journal of the Department of Agriculture of Western Australia," Vol. 5, Part 3. Chief contents: "Orange Thrips," "Insectivorous Birds of W.A.," "Cheese-making," "Feeding Poultry," "Fremantle Fruit Sheds," &c. * * "The Tropical Agriculturist," April, 1902. Contains an immense variety of useful matter. * * "The Canadian Horticulturist." Special features: "Co-operative Cold Storage," "San José Scale," "Pears for Export," "Plum-tree Gall-mite." * * Register of nurseries, market gardens, farms, florists' seed businesses and partnerships to be let or sold by Messrs. Protheroe and Morris, 67 and 68, Cheapside, E.C., May, 1902. * * "Le Moniteur d'Horticulture," May 10, contains a coloured plate of Rose, La Reine des Neiges. * * "Journal of the Department of Agriculture of Victoria," March, vol. 1, part 3. Principal contents: Dairy bacteriology, spraying and cleansing fruit trees, advice to Tobacco growers, Peach leaf curl, "Shot-hole" and "Scab," Lucerne, &c., &c.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1902.										
May.										
Sunday ... 4	N.W.	deg. 46.7	deg. 43.8	deg. 54.4	deg. 38.0	Ins. 0.05	deg. 47.5	deg. 49.2	deg. 48.7	deg. 31.8
Monday ... 5	W.S.W.	47.7	44.7	53.8	34.5	0.03	48.4	49.2	48.7	26.4
Tuesday ... 6	N.W.	40.9	38.8	50.4	32.3	—	48.2	49.0	48.7	24.8
Wednesday 7	N.	42.6	39.5	50.9	34.2	0.06	47.8	48.9	48.7	25.8
Thursday 8	N.N.E.	45.9	42.4	51.1	38.5	0.04	47.8	48.7	48.6	27.1
Friday ... 9	N.N.E.	44.4	40.4	52.1	34.5	0.11	47.3	48.5	48.6	24.6
Saturday 10	N.N.E.	44.6	40.2	52.4	34.2	—	47.5	48.4	48.4	26.6
MEANS ...		44.7	41.4	52.2	35.2	Total. 0.29	47.8	48.8	48.6	26.9

The weather during the week has been dull, showery, and very cold.



Early Flowering Varieties.

A good selection of early flowering Chrysanthemums in the open gardens or on suitable borders among other plants gives considerable interest, colour and useful bloom for cutting and decoration in the autumn. Fair-sized bushy plants with a good ball of active roots transferred now to the ground in fertile soil, kept moist until established, and the ground hoed frequently, will soon form vigorous bushes. By the time they may be expected to flower neat specimens will have been produced.

As it is not yet too late to plant, it may be of interest to note a few good and reliable varieties which can be depended upon to give excellent flowers of medium size, or perhaps in some cases small, but none the less interesting and attractive. As a rule the flowers are plentifully produced, little if any disbudding being practised.

Among the white varieties there are few to surpass Madame C. Desgranges, Lady Fitzwygram, Mytchett White and Isabel Williams. Red or bronze varieties are represented by Harvest Home, Bronze Prince, Ambrose Thomas, Mytchett Glory, Nellie Brown, and Rycroft Glory. The rich yellow varieties are always attractive. Alfred Dron, Emily Grunerwald, G. Wermig, Lemon Queen, Miss Dove Elliott, M. Dupuis, Mytchett Beauty, Sunshine, are among the best.

The pink or rose varieties comprise many good kinds. A. E. Manser is very free, the flowers being a pretty shade of light flesh pink. Albert Rose, Massi Faire, Notaire Goon, Pride of Mytchett are other good varieties. The crimson varieties are most attractive, affording rich contrasts with the other colours. Jeanne Vuillermet is dark crimson, Jules Mary, dark crimson, General Hawkes, crimson amaranth; Montague, purple crimson; Roi des Précoces, a small dwarf bushy habited variety with crimson flowers. Other varieties to be recommended are Crimson Marie Masse, the lilac mauve variety of the same name, and a sport named Ralph Curtis, which is a white variety from Madame Marie Masse.—E. D. S.

Ideas on Bedding Arrangements.

It has often been said that we Britishers move slowly, and perhaps in many instances it is well that we do, for it sometimes prevents us from committing blunders which are not easily repaired. John Bull certainly takes plenty of time to "think about" the more important matters of life, but in little things he is easily "gulled," and led into practices which are justly termed ridiculous when sanity returns. The craze for novelty and change—which are such marked features of modern life—will sometimes lead the most staid individuals into tortuous, but by no means progressive, paths, and the fashion of the moment, which is supposed to be guided by authorities on taste and art, contributes perhaps more than anything else to the hosts of shattered ideals which strew the path of life.

The fault of the fashion makers seems to be that they take us from one extreme to another, and in nothing is this more apparent than in the style of flower garden decoration so largely adopted during the last few years. The old formal and stereotyped style undoubtedly left plenty of room for improvement, and most of us have welcomed the graceful and artistic method of planting flower beds and borders which has been successfully practised in many instances. All honour is due to those who inaugurated the change. I fear, however, that I am not alone in thinking that many would-be imitators, in attempting to carry out the style under conditions wholly unsuitable, have made a complete muddle of it. A judicious arrangement of tall and dwarf plants in borders or large beds can do much to produce an extremely pleasing and artistic effect, but when an attempt is made to do this, in the same way, in a geometrical garden formed of numbers of small beds, no true artist could, I am sure, admire it, and but few gardeners would pass such an attempt by without expressions of ridicule.

The most glaring mistakes of the above description may sometimes be seen in flower gardens in which the beds are grouped together to form a complete design, the various parts being connected by a series of scrolls. I do not say that gardeners are entirely to blame for this, as their employers often express the wish to have the beds planted after the style adopted at such and such a place, and it is then only after having seen how ill-adapted such a method of arrangement is to their own

case that some employers can be convinced. Many gardeners have, however, averted a failure by pointing out the drawbacks before, rather than after, the event. I fancy that in many cases this season there will be a return to more sensible methods of planting gardens of formal design.

During my travels last year I met with one of those old gardens which is a perfect specimen of its kind, and was laid out by the first landscape gardener of his time. The attempt to convert this into a miniature "wild garden," or to plant it after the fashion of the mixed border, resulted in the greatest "muddle" I have seen for a long time. The beauty of the design as a whole was entirely lost; indeed, what the design really was could only be seen by wandering along the dividing paths. All this was the result of planting beautiful plants with a straggling habit of growth in entirely unsuitable positions. The picture appealed to me—in a sense—for I felt thankful that the designer or the gardener in question could not rise from his grave to lament over its temporary decadence. I thought, too, how some gardeners who have not been led away by the common craze to be "modern" must have "chuckled" at the result there achieved.

Well, I have now done with criticism for a time, as I do not want to lose sight of the fact that criticism is useless unless in conjunction with ideas are advanced which will tend to improve matters. The undesirable results already treated of are brought about by carrying the modern system of planting to an extreme point, and by lack of judgment in disposing plants of various habits of growth to the best advantage. The appearance of the most formally designed garden can be made far more telling by introducing a few tall plants here and there than by adhering to the flat surface with a blaze of colour which was so long in vogue. But the designer requires a good sense of discrimination to carry it out successfully, and it is better to use too few tall plants than too many, as it is so easy to destroy the balance of growth which should prevail in beds laid out in a formal way. One excellent method of forming an opinion of the ultimate effect (in regard to height) of planting certain plants at given points, is to insert tall sticks at such points before planting begins, as the practice gives a capital idea as to whether or not the height at such points will be too great or if the positions are well chosen.

In all flower gardens where the beds are formal in design there should be plenty of spaces between the tall growing plants to enable the on-looker to catch a glimpse of all the colours employed in each bed forming a part of a complete design. Many geometrical gardens were originally laid out with a view to the effect to be produced from a terrace or from the windows of a mansion, and in such cases the effect is entirely spoiled by having anything like a solid mass of tall growing plants at any point. One good bold plant in centre of a bed here and there breaks up the surface without impeding the view, whereas a larger number of the same plant massed together would be too heavy in appearance, and would unduly obstruct the view. Some flower gardens are surrounded by shrubberies with tall trees intermixed, which gives them a confused appearance, and in such instances tall plants should be disposed much more sparingly in the beds than when the surroundings are more open, so as to show extensive views beyond.

By using "dot plants," such as tall Fuchsias, Abutilons, Grevilleas, and Cannas, set in a carpet of dwarf growing materials, pretty and unique beds may often be formed, but beds treated in that way ought to be rather larger, and the system is better adapted for the outlying parts of a flower garden than to the central design which (in private places) usually consists of numbers of small beds arranged closely together and often connected with each other. In the latter case, if a few tall plants, such as *Dracaena australis*, *Pandanus utilis*, Cannas, *Ricinus*, *Eulalias*, or *Humea elegans*, are arranged individually at well chosen points, and the other occupants of the beds are of comparatively dwarf growth, a free, light, and at the same time showy effect is produced.

When large beds have been specially made for the purpose the mixed system of bedding throughout is capable of adding features of great interest and pleasant surprises at every step; but a greater knowledge of the habits of plants employed is in many instances necessary in order to get something approaching due balance of growth. The effect as a whole is, however, never so telling as when masses of one colour are employed, with the isolated tall plant here and there to take off the stiffness. The point, however, which I wish to press home the most strongly is the incongruity of planting a mixture of "weedy" looking plants in beds forming part of an intricate design. When such a method of planting is preferred why not clear away the whole design, and make beds adapted to that style of planting?

Gardeners who at the present time are pondering over their bedding arrangements should think pretty deeply before they depart largely from methods which have previously given satisfaction, for although new features should as often as possible be produced, it is important that such features should be better, rather than inferior, to those already carried out.—ONWARD.

Some Flower-like Butterflies.

Just about this time a stroller in some wood or plantation may chance to witness a rather singular sight. His attention is drawn to a man upon his knees, who is very carefully examining low plants, and who either keeps on getting up and down, or crawls from one clump to another. Something he is seeking for, probably hybernated caterpillars, which, after a fast, have keen appetites for the young leaves of April. There are a variety of species to be found in woods and elsewhere; but many entomologists hunt at the spring season for Fritillary caterpillars, which feed upon several low plants, especially upon the species of Violet. Such a search is back-tiring work, with possibilities of rheumatism; 'tis apt also to be disappointing, since Newman cheerily remarks that hundreds of plants may be examined and not one caterpillar be taken. Owing to their mode of growth, the food-plants cannot be swept with a net. Then, again, some of these caterpillars have an artful plan of occasionally leaving the food-plant to repose elsewhere for awhile. Also, any noise may make them drop to the earth.

The Fritillary butterflies form a very distinct group, of which there are representatives in all parts of our globe, and we in Britain are fairly well off, considering that we are somewhat scant of butterflies. Upon the upper wings there is generally a curious pattern, of varied colour, having so marked a resemblance to the adornment of the Fritillary Lily that it suggested the popular name. Upon the under side many species display brilliant silvery spots, large or small. We cannot call them garden insects, a few species occur upon downs or heaths; but the majority have their home amongst the woods and forests. Stragglers, attracted by flowers, do sometimes visit a garden near their haunt. Very likely they would be commoner, only the hybernating habit of the caterpillars doubtless leads to the death of a portion during unfavourable winters. Also, since naturalists have taken to hunt these butterflies, the peculiarity of several species in having an assembling ground or "metropolis" has led to their wholesale slaughter when the spot is discovered.

It is amusing to find the late J. G. Wood swelling the catalogue of our garden foes by mentioning the caterpillar of one Fritillary as a possible enemy to Heartseases and Violets, therefore to be destroyed when seen. He describes it as being reddish while juvenile; afterwards becoming olive green, with a white line and white spot. We have never heard of anyone who saw a specimen in a garden, though it is not an impossible occurrence. Like the rest of the tribe, it is shy of exhibiting itself, as caterpillar; and, in the butterfly state, it is wary, the capture requiring a skilled arm and a swift foot. This insect is partial to woods; but also frequents verdant hillsides, flying mostly in August, and is called the high-brown Fritillary, *Argynnis adippe*, being one of our three large species. On the upper side it is of a beautifully bright brown, chequered with black spots, beneath it is a duller brown; but this is a contrast to the numerous silvery spots and small crescents which light up the under wings, almost excelling the kindred species, *A. aglaia*. It is a southern butterfly, rare in the northern counties, unknown in Scotland or Ireland.

A. aglaia is another rapid flyer, preferring downs and sand-hills near the coast, but sometimes resorts to woods. It has been taken in Cobham Park and Darenth Wood, Kent. Females of the species have often a greenish tint, hence the name of dark green Fritillary. Both sexes have a black patch at the base of the wings, distinguishing them from the preceding species. Though the caterpillar has been taken on the Dog Violet, it probably feeds on other plants. A full-sized one is a handsome object, the skin bluish black, having a few grey lines, a shining black head, over which spines project like horns. Its whole body is densely spiny, these being thrown off when it becomes a chrysalis.

The commonest of the three large Fritillaries is the silver-washed, or *A. paphia*, though scarcer of late years, owing to the clearance of our woods and the persistence of collectors. Now and then specimens are attracted by garden flowers to take an excursion from the parks or woods where they have been bred, affording a pleasant sight on a sunny July day. In this species we have the usual pattern upon the upper wings, but beneath is a show, not of spots, but silvery streaks. It is a good flyer, the season only lasting two or three weeks at most. The caterpillar feeds upon Violets.

It has said also to have occurred upon creeping Brambles. A friend of ours, riding one day through an extensive park in the west of England, saw all these large Fritillaries out at the same time, but keeping apart from the other two. Each, he observed, had a speciality in its flight, and he fancied they chose a position for themselves regulated by the trees which were growing in the different plantations he passed.

Then, earlier in the season, smaller Fritillaries, similarly chequered, are on the wing. Two species in particular we regard as pioneers of summer. They seldom quit the woods, and in them often occur only within a limited space—all the worse for them when hunted by entomologists. These are the pearl-bordered and lesser pearl-bordered Fritillaries, *A. euphrosyne* and *selene*. The first of these used to be not unfrequent near London; the latter has of late been scarcer in most places—it has most silvery spots. Most rare, yet truly a native, is the Queen of Spain, *A. lathonia*, a capture of one being indeed a record event to an entomologist. This has generally been observed as late as September. On the Continent there are two yearly broods, where it is more frequent.

Then there are the *Melitæas*, small Fritillaries, similarly marked on the upper side, but no silvery spots beneath, only delicate tracings, pleasing to the eye. They are gregarious, both in the caterpillar and butterfly state. One of these is particularly attached to pasture land. *M. artemis*, drolly named, for it is by no means a rapid flyer; nor, indeed, are any of them. They have the peculiarity of appearing by thousands one year, and the next being scarce, or altogether absent.—ENTOMOLOGIST.

Broccoli Growing in Cornwall.

Professor Clarke, principal of Cornwall Technical Schools, recently lectured at Marazion on "Broccoli Growing." Mr. R. Trudgeon, who presided, said foreign Broccoli sold better than Cornish when placed side by side in the open market, and if Dr. Clarke could tell what to do to improve their position everyone present would be highly pleased. Dr. Clarke said the foreigner's method differed from that adopted in Cornwall, and he felt certain that unless Cornishmen adopted the special method followed abroad they could not successfully compete with the foreigner. Broccoli came from the wild Cabbage plant, the most extraordinary plant in the world, and was a malformation or deformity. Broccoli being therefore more or less unnatural, it must be kept in an unnatural condition, and that was done by feeding the plant with suitable manures. Nitrate of soda, sulphate of ammonia, seaweed, farmyard manure, and good guano contained nitrogen, which was a manure of growth. The plants manufactured all they needed in their leaves. Their roots took up the raw material from the ground, and the flower was manufactured by the leaves of the Broccoli plant, and in its manufacture nitrogen was necessary. Something was wanted to carry the nitrogen from the leaves to the heart of the Broccoli plant, and phosphate was that carrier. The third substance required was potash, and its special work was to see that the young plants were well made, as young plants required more potash than old ones. He had seen abroad first rate and second rate Broccoli growing, but while second rate Broccoli was not sent to England, the foreigner took great care never to send anything but second rate seed.

The selection of seed was a very important matter. From samples he had examined he found great contrast in their composition. Some very fine looking seed contained but very little potash. The best Italian seed contained nearly 60 per cent. more potash than any English seed. The soil intended for making seed beds was selected at least from six to eight months beforehand. They choose a nice light working loam, which contained a fair amount of lime—not lime added in its raw state, but added to it in some natural form, such as shell sand. The soil was mixed with superphosphate of lime and wood ashes made from the clippings of hedges, trees, and Vines. Twenty-four pounds of superphosphate of lime was mixed with 45lb of ash, and the mixture, after being carefully turned for two or three weeks, was then mixed with a ton of the soil, special care being taken to make it as perfect as possible. The Broccoli seed was then sown. Italy, France, and Germany all aimed at getting plenty of phosphate into the plants at the earliest stages of existence, and this country was the only place in Europe where that practice was not uniformly adopted. In France they also carefully watered the Broccoli intended for seed with phosphate of potash, which costs about £18 per ton. Though little known in England, it was greatly appreciated on the Continent, and the Germans, French, and Italians were prepared to buy all that was produced.

Hallingbury Place, Bishop's Stortford.

Lying about three miles in a south-westerly direction from the town of Bishop's Stortford, in Hertfordshire, is Hallingbury Place, the estate and residence of Colonel G. B. Archer Houblon, who is also owner of Welford Park, Newbury, in Berkshire, where Mr. Ross, the gardener there, has lately raised some Apples and Pears of standard excellence. And curiously enough, hardy fruit culture is perhaps the strongest feature of the extensive and well kept gardens at Hallingbury, where the Colonel here, and his gardener, Mr. W. Harrison, both delight in this phase of horticulture. Our illustrations show the aspect of the mansion from two points of view, and though the edifice is not ornate, it is yet spacious and magnificently proportioned. I cannot pretend on this occasion to trace the history of the demesne in the slightest, but when Hallingbury comes to be noticed at another time, its historical records will be reviewed. This estate comprises four thousand acres of forest, park, garden, and farms, lying at a goodly elevation, and with a surface conformation beautifully varied, for the Bishop's Stortford region is anything but monotonous. Its roads are winding and undulating, smooth and in good keeping, being sheltered on either side with tall Thorn hedges and flowery banks.

Hallingbury is rich in noble specimen trees, and its Cedar Avenue on the east front conveys a long and splendid carriage drive forward in that direction; and in some of the most handsome features of the domain.

The Evergreen Oaks (*Quercus Ilex*), Cedars, and Sequoias (*Wellingtonias*) rise here and there in stately bearing, and full of vigour. This is particularly characteristic of the Holm Oaks; and as a typical instance of the dimensions of some of the Cedars, I may mention one (*C. atlantica*) whose circumference measures 16ft. Some fine Yew hedges exist, the best being around the tennis-lawn.

A Ha! Ha! divides the mown lawns of the garden proper from the large surrounding park on the south and western sides, and admits an uninterrupted view far out, and banked toward the right with tall Elms, and Beech, and Oak trees. In the grounds themselves are little clumps of Austrian and Copper Briars, and beds of Roses. Beneath the trees at this season the Daffodils add grace, and on "Lady Mawley's Lake" (as I believe it is named) the ornamental water-fowls disport themselves without fear of molestation. The stock of these embraces pintails, widgeons, Carolinas, Mandarins, and other sorts. A portion of this lake is figured on this page.

The glass houses are numerous and substantial. A long, lean-to peachery contains trellis-trained and standard trees, each in full flower at Easter, and as healthy as possible. A method seemingly adopted to obtain a steady and easy flow in the hot water pipes in this long Peach house was that of constituting an incline from the point of the water's ingress to the opposite end, so the heated water might have no check to its onward and upward flow. The flow pipes were raised on low piers of varying heights. Roses are well cultivated in one compartment of the same range, and that fine old variety Fortune's Yellow, was not omitted. Beyond the Rose section, a Cherry house succeeded, and from among the usual selection of Cherries that are grown, Mr. Harrison finds Empress Frederick to be the best. The earliest vinery was well advanced. The house is of the sunk-pit style, very manageable and useful for the purpose. The aged Vines (said to be sixty years old) were carrying large bunches at regular distances, and the stout growths and robust leafage were sufficient to satisfy the mind of the most critical. There is no inside border here, but the outside area was deeply bedded with fermenting material.

Four large span-roofed vineries have been recently overhauled, and indeed the work was still in progress at Easter, so that the young new Vines here planted have yet to prove the skill of the grower; and the gardener who can produce first-class Grapes must be thoroughly qualified. No pains are spared in order to obtain the best of fibrous loam that the estate affords, and this is mixed

with lime-plaster, knit with the coarse hair used in its preparation, to form a very sweet and acceptable rooting medium for the Vines. The young Vines are confined to the single rod, being cut back to one-third of their length the first year; next season's wood is again headed back a little, but by the third year the growth reaches the top (the limit), and the point alone is shortened. A stout rod of three seasons' growth is thus built up, and is able to yield exhibition bunches.

Numerous flower and plant houses are situated within the walls, but not altogether. The ubiquitous Cinerarias, both the dwarf and stellate types, are creditably shown, and the same is to be said for the Primulas. Malmaison Carnations are another feature, and these receive considerable attention.

The borders of the hardy fruit garden are laden in summer time with Delphiniums, Pinks, Aquilegias, Phloxes, Pentstemons, and other herbaceous plants; but the sweet and odorous Violets claim all the attention of visitors in March. Sheltered at the base of the surrounding fruit walls, the Violets almost smother themselves with their little blossoms. Hardy fruit trees, as I have said, are a feature of Hallingbury. Already there are some promising representatives of the excellent Charles Ross variety, a new comer in whose progress Colonel Houblon especially interests himself. The espalier trees of Pear and Apple line every border and brake. They had become crowded and decrepit from that effect, but the commonsense method of lopping off each alternate horizontal branch has been suggested, and meanwhile a number of fresh young shoots have been allowed to arise at

regular intervals from the upper branches of these trees, and from these it is expected to draw such supplies as stout young wood alone can give. Grafting is largely practised by Mr. Harrison, and quite a number of middle-aged trees were "headed-back" in March, ready to be manipulated upon. Nut bushes and Mulberries do well here. Why not try the Date Plum next, Mr. Harrison? It grows and fruits freely (under glass, of course), and the fruit would, at all events, be novel. There are also the Anonas, or Custard Apples, and Mangoes, which may not be beyond the power of a careful culturist to render fertile. The fruit store-room at Hallingbury is suitable for late keeping Apples, Pears, and Grapes, and a goodly representation of fine fruit was still on view.



Lady Mawley's Lake, Hallingbury Place.

In the coming summer I look forward to another leisurely peregrination in the garden and glades of Hallingbury.—J. H. D.

Gadding and Gathering.

"HERE AWA', THERE AWA'."

Norhyrst, South Norwood, S.E.

Mushrooms in a Cucumber house! What next? Yet Mr. J. R. Ball, the head gardener to A. D. Klaber, Esq., of Norhyrst, South Norwood, London, grew very successful crops during the past season, in what is now used as a house for Cucumbers. The structure is of ordinary span-roofed form, and heated with double rows of flow and return pipes. There is a central path and side stages, bricked up, and it was upon one of these that the bed was made. Sufficient depth being ensured, the fermenting manure and leaves were filled in and made firm in the ordinary way, a layer of good loam being placed on the surface. To secure an equability of shade for the fungous growth, a heavy screen of tiffany was hung about the bed and over it, and the result was so entirely satisfactory that good and useable crops were gathered over an extended period. Cucumbers and French Beans are now in this house. Amongst varieties of the latter Mr. Ball favours Williams' Early and Osborn for early forcing. Cantaloup Melons are grown in large pots in an adjoining section of the structure;

but very profitable crops can also be obtained from Cantaloups in frames, a system often employed. Bananas are also favourites at Norhyrst, even though the houses are only of very moderate dimensions. But this is all the more encouraging, for there are surely others who would cultivate these fruitful and much prized members were they confident they possessed the means to do so. They can be grown in tubs containing little more than a cubic yard of soil, and half a dozen plants occupy no more space in a stove or warm plant-house than the same number of large sized Palms. In the fruit ranges everything was satisfactory. Part

The estate embraces an area of thirty acres altogether; and part of it, which is played upon by the sun in all directions, has lately been added to the kitchen and fruit garden. A little more shelter from the north-east (the South Norwood district being very high) would have materially favoured gardening operations here, but that may be added in time. In this new garden are Gooseberries that were planted at Christmas and are now bearing well, showing that the soil suits them, and that the planting has been carefully done; bush and pyramid Apple trees are also becoming established. Tulips and spring flowers adorned the

beds and borders at my visit, and the opening Cratæguses gave promise of sustaining the flowery show made by the Amelanchiers. One very interesting feature of the grounds on the west side of the residence is the Young Ladies' Gardens, formed in a sheltered nook, and divided into sections according to the number of the fair young gardeners. Primulas and Auriculas and Scillas, and the wild Bryony—no less!—were all to be seen. May their love for gardens and flowers long continue!

Cumberlow, South Norwood.

The Cumberlow and Norhyrst properties adjoin; the former lying more towards South Norwood and at a considerably lower level. The hand of man has worked wonders with the grounds of Cumberlow, which now support such tactfully disposed groups of shrubs, Roses, and specimen trees that no one would imagine the scene as it now appears was once a large brick-clay field. The lower portions are laid out in lawns; and part to the right, by the stables (which lie back from the west entrance gates), is utilised as a kitchen garden. On the north side additional ground has recently been acquired and planted around

the boundaries with a selection of flowering and evergreen trees and shrubs. On the same side, but nearer to the residence itself, are the plant houses and vinery. On the south side there is another entrance, and here, too, is a large new rock garden, at the base of which it has been suggested to form a Water Lily pool. W. F. Stanley, Esq., J.P., the owner of Cumberlow, takes an active interest in his garden and its working, and his wishes are, we feel sure, conscientiously enacted by Mr. J. Dingwall, who has now been head gardener here for nine years. The keeping of the whole place impresses the visitor most favourably. The Vines were in bearing, and are furnishing vigorous growths. Though the vinery is not a large house, there is yet a selection of six varieties, including Mrs. Pince, Black Hamburgh, and the lesser-known Dr. Hogg. Near by are some span-roofed houses, which contain Tomatoes in summer, with other occupants. The varieties of the favourite "Love Apple" here grown are not so well known in the South, but are popular northwards. They are Laird's Supreme, Earliest of All, and Lister's Prolific, the first and last being more or less rarities. The fernery, conservatory,



The North Front, Hallingbury Place.

of a tree of a Barrington Peach having succumbed, it was decided to cut the branches right back to the main stem, and a bud of Royal George Peach was inserted on the Barrington stock. The relationship seems to have proved agreeable, and the bud has now developed to a vigorously branching limb. The gardener here says he always "buds" a branch on any of his trees on those parts where natural breaks are wanting. Thus a bare portion of the wall space can be speedily covered.

Among Vines Mr. Ball is equally practical. Finding that his Alnwick Castle Vines did not set well, and were prone to exude those pellucid drops so often noticeable, he grafted this variety on to Black Alicante, and the object has so far been attained, viz., a stoppage of the exudation, and a better "set." The grafted Alnwick rod being brought into comparative nearness to the Alicante, its own semi-sterile flowers become pollinated and hence fertilised. Both outside and inside borders are provided, though the latter is very narrow. Oranges in pots are a feature in the house devoted to Bananas. Citrus Limonum, the Lemon, has been grafted on to the Orange. Citrus aurantium, to strengthen its fruiting proclivities.

In the open grounds there is much of interest during spring and summer. Sweet Potatoes (*Ipomæa battatas*) are somewhat novel in English gardens, but are grown here, and Sweet Corn is never omitted, for the owner of Norhyrst is an American. The variety of Sweet Corn cultivated is the Early Sweet Cob. The seeds are sown early in April in small pots, and when the plantlets are of a size to be handled, and good weather prevails, they are planted in trenches prepared as for Celery. The Perpetual Spinach at this season supplies very large quantities of a tender vegetable. From a sowing in September, picking can start during the first week of April. In the formation of new Asparagus beds, a considerable amount of fowl (chicken) droppings has been incorporated, and the wisdom of this addition to Asparagus beds seems to have been previously considered by Mr. Ball. Early Peas are grown between the beds, which are raised. A French Haricot Bean named Haricot de Pedigique is on trial.



Hallingbury from the North West.

and stove were well filled with the usual decorative subjects. Dandelion as a salad is more scarce in English gardens than its diuretic properties might warrant. At Cumberlow a large bed with Dandelions is cultivated every year from seeds. The crowns are blanched, but to most people they are too bitter to be agreeable. Schoolboys collect the ordinary leaves of the Dandelion as a food for silkworms when Mulberry leaves cannot be procured, both containing a milky juice.

An open south-west wall in the garden here is devoted to Peaches and Nectarines. The crop promises to be somewhat under average owing to the effect of the late keen winds upon the stigmas at the crucial pollinating period. It is always best to err on the safe side, and the benefit of a herring net as a means of protection during the flowering period cannot be overestimated. Peach trees are delicate compared with many other fruits. Pears and Cherries are doing well, and so with Apples. In order to assist the Asparagus beds, Mr. Dingwall had applied sulphate of ammonia to assist the growths.

In order to blind the view from a number of adjacent villas at Cumberlow, a novel screen has been arranged. A number of old tree stumps being covered with Ivy, the shoots of the latter are being woven together between the trees, and nothing more effective could have been planned. Beneath the trees in the same part of the garden a quantity of Tulips, Hyacinths, and Narcissi have been naturalised. The latter do well, but the others, especially the Hyacinths, soon deteriorate. A feature near the new rock garden is furnished by a collection of beautiful foliaged Acers. Where these can be established it is wise to allow a place for them; their beauty in spring time is such as everyone admires. In the making of the rockery, which is well situated on a slope facing west, the ground was first of all thoroughly trenched; then it was roughly disposed to its final conformity, and the boulders and stones were then adjusted. It is a special centre of attraction to Mr. Stanley, and is stocked with a suitable selection of dwarf plants and shrubs, which, however, were but little advanced in the first week in May. Beds of rugosa Roses, H.P.'s. and Teas grow rampantly in the good soil furnished for them on the lower strath beneath the rockery. On the rock-garden itself the Thymes—silver, golden, and common green—very fragrantly asserted their welcome, if lowly, presence; and there are also Yuccas in variety, groups of Narcissi, Muscari, Wallflowers, Primulas, Polyanthus, and Auriculas in all their sections, Saxifragas, Geums, Dianthi, Tulipa species, Tiarella cordifolia, Claytonia umbellata, Arenaria balearica, Linaria pallida, and other plants whose true characters cannot be seen till a later period in the year. Berberis Darwini, also the golden Gorse (the double Gorse is a grand "wild garden" plant, and could be used at Cumberlow), and groups of shrubs formed a flowery and charming background.

In the new garden on the northern precincts I noted the double-flowering Gean, the pink and lovely Prunus triloba (which flowers on the young wood, and which ought, therefore, to be pruned just after flowering), Halesia tetraptera, Prunus Pissardi, Robinia hispida, and the false Acacia, besides a large and wisely chosen list of dwarf shrubs, some of which are less known than others. Cumberlow extends to 9 acres, all of which, one may say, forms the garden and ornamental grounds under the care of Mr. Dingwall. At the present time his employer, Mr. Stanley, is pre-occupied in the erection of what will, we believe, be named the Stanley Hall—a town hall which he is most generously building at his own expense as a free gift to the South Norwood citizens.—WANDERING WILLIE.

Obituary.

The Late Mr. Thomas Davis.

Few men have passed the allotted span and lived so blameless a life as the late Mr. Thomas Davis, whose death occurred at Wavertree, after a short illness, on Tuesday last. Born at Wavertree, Liverpool, on July 22, 1829, he entered the horticultural business then conducted by his father, and from thence went to the nurseries of Messrs. J. A. Henderson and Co., Pine Apple Place, Maida Vale, London. Luton Hoo, Bedfordshire, was his next situation, and then home again to an increasing business, which, by diligent application soon became well known. How conspicuously he presided over it, servants, friends of the trade, and those in private establishments know so well, the kindly and sympathetic nature ever asserting itself for all that was good and true. Oddfellowship and his church and schools were all dear to him, he having been churchwarden and manager of the schools for many years, the same high tribute of his worth being paid by the teaching staff. He had also served on the committees of the Horticultural Societies of Liverpool and Woolton, receiving from the latter an illuminated address, marble timepiece, and tea and coffee service. "Other men have laboured, and ye must enter into their labours" holds good for all time, and if only more followed the earnest endeavours inculcated by him who was laid

to rest—amidst the many tokens of regret from the large circle of friends present—in the quiet Childwall Churchyard on Saturday last, then, indeed, their work would not be in vain.—R. P. R.

The late Sir Malcolm Inglis.

It is with regret I have to record the death of Sir Malcolm Inglis, of Montrose, Donnybrook. Although he never identified himself with horticulture in public, yet, in a silent manner, his regard was expressed by keeping his garden up to date. Within its walls the best models of cultural skill could always be seen, and novelties found a home.—A. O'NEILL.

Designing and Planting a Small Suburban Garden.

A correspondent, "C. A. S.," writes as follows:—"Will you kindly give me some information as to the laying out of a small suburban garden (near London), 98ft by 35ft at back, and 15ft by 35ft in front, with a clay soil, damp, and rather on a slope. I thought of having it cut into long flower borders, gravelled paths, and turf edgings, one big bed of Roses in centre, and climbing Roses round on the fence. Will this be a wise arrangement, and will the following flowers (list appended, and which are found in 'G.'s' answer) be any good? I cannot afford to buy soil."

To this query the following answer is offered:—Your proposed arrangement of the ground into long beds or borders, with gravelled paths and turf edgings, one large bed in the centre for Roses, and climbing Roses round the fence, would, we consider, be a wise arrangement, though it is a matter for consideration as to whether you should not have all grass between the bed or borders, though gravel paths would be more serviceable in wet weather, otherwise grass would have the best appearance, and one mowing serve, as this will be necessary for the verges. As the soil is clay, it would be advisable to give it a dressing of quicklime, so as to better its texture, applying 1cwt per rod, slaking with the smallest quantity of water necessary to cause fall into an apparently dry powder, spreading evenly while hot, and digging in in the course of a few days, using a fork, and taking small spits, so as to mix the lime well with the soil.

There is no reason why Lily of the Valley should not do well, only add thoroughly rotten manure to the soil liberally, also Forget-me-nots. Daffodils delight in a strong soil, all the hardier sorts doing well. Sweet Peas, also Everlasting Peas, thrive, and similar remarks apply to Hollyhocks, Christmas Roses, Tomatoes, Poppies, Anemones, also the Japan Anemones and Canterbury Bells.

White Broom prefers an open soil, and does not do well where cold and wet, likewise Travellers' Joy, though both thrive where the ground is well drained. Purple Clematis would succeed only where water does not lodge in the subsoil. Columbines do well, also Gypsophila, Scabious, Godetia, Mexican Thistle, Blue Gentians, Lupins, and Pæonies of the herbaceous section. Sweet Sultans do fairly well in summer, but not from autumn sowing.

Iris Kæmpferi and Michaelmas Daisies would be at home, also summer Chrysanthemums and Foxgloves, though they prefer a more generous soil. Southernwood and Lavender like a little generosity as to soil, preferring light to heavy land. African Marigolds and Geums, Cornflowers, and Marguerites prefer a lighter soil, but would do fairly well. Nasturtiums do admirably, also Mignonette. Sweet Briar does well. Arnica and Stonecrop require drier conditions.

Ferns should have shade, then the different species and varieties of Lady Fern (Athyrium), Male Fern (Lastrea), Osmunda regalis (Royal Fern), Shield Fern (Polystichum), and Hart's Tongue (Scolopendrium) do well. Sunflowers, both annual and perennial, do grandly; and it is the soil of soil for Roses, especially for the Hybrid Perpetuals and the hardier Tea-scented, such as Gloire de Dijon. Good varieties for massing are:—Red: Alfred Colomb, Beauty of Waltham, Duke of Edinburgh, Maréchal Vaillant, Sénateur Vaisse, and Thomas Mills. Crimson: Charles Lefebvre, Fisher Holmes, Général Jacqueminot, Louis van Houtte, Monsieur Boncenne, and Reynolds Hole. Rose: Annie Laxton, Duke of York, John Hopper, Marquise de Castellane, Mrs. John Laing, and Victor Verdier. White and pale blush: Aimée Vibert, Baroness Rothschild, Boule de Neige, La France, Bessie Johnson, Madame Lacharme, and Pride of Waltham. Yellow: Gloire de Dijon.

Of trees, besides the Double Cherry and Almond, you should have Scotch Laburnum, double Red Chestnut, double red and pink Hawthorns, Mountain Ash, Dartmouth and Siberian Crabs. As to trees, the quickest growing are the Poplars, the Silver (Populus alba var. argentea) and Canadian (P. monilifera canadensis nova). The Huntingdon Elm (Ulmus glabra vegeta) is also very quick growing; but in so small a space, and with the ground arranged as proposed, tall and spreading trees would be better avoided.—G. A.



The Dahlia Analysis.

The perusal of the above in the issue for May 8 is calculated to more than usually interest Dahlia lovers. The comparative absence of new varieties from the lists of Show and Fancy sections, and their ever increasing numbers amongst the Cactus varieties, shows very plainly the present trend of popular choice. Mr. Mawley says that "even the Dahlia experts find it difficult to keep in touch with all of them," meaning the new sorts of Cactus which are continually being brought to public notice. This only tends to make such an analysis of real value to all admirers of the Dahlia, especially to those of us who cannot possibly hope to keep up to date in our acquaintance with each of the newer varieties.—J. W.

Leaf Curl in Peaches.

On page 410 "Inexperienced" advances a question on this subject in connection with the use of Bordeaux mixture. He asks if the remedy "can possibly do any good now that this disease of the foliage is in full sway"? The fungicide may, and, if used at proper strength, will certainly benefit the trees by preventing the pest spreading to the young and advancing foliage, which may be so far clean and free from injury. In a season such as the present, when cold winds have been more than usually prevalent, I have found it wiser to leave the protecting material a week or so longer than usual upon the trees rather than to be in a great hurry for its removal immediately the fruit has set. "Inexperienced" will be well advised to remove a number of the worst leaves and burn them. This will to some extent prevent the disease spreading, and the badly crippled foliage can in any event be of little if any use to the trees. Protection so far as possible, and early spraying with Bordeaux mixture or similar remedy, is the best course to take in preventing this troublesome and disfiguring disease.—J. W., Hopton Hall Gardens.

The Bothy Plan.

As a reader of your excellent Journal for a number of years now, perhaps I may be allowed to make a few remarks regarding the "Journal Bothy Plan." I may say I am far from being at one with the suggestion of your able correspondent, "H. R., Kent." I have spent the greater part of the past twenty years in bothies—good, bad, and indifferent—and latterly, I am glad to say, in one of the few model bothies to be found on this side of the Border; so, from personal experience and from appreciative remarks of others, I have no hesitation in saying that by all means each man should have a room, with every facility for reading, writing, &c., such rooms to be furnished with a small wardrobe or chest of drawers and chairs. That, in the first place, would be more appreciated by the great majority of young men than all the reading and messrooms combined. By each having a room, all, or a few at least, of these gardeners would be entitled to a vote should a parliamentary election occur. With a large, clean, well ventilated kitchen (having scullery attached), a messroom is not a real necessity for six men. Ample bathroom and lavatory accommodation is of more importance. A large library or bookcase is very handy, and can be supplemented occasionally by the employer or young men as they choose. At most very large places a reading and recreation room of an approved principle is generally provided at some other convenient part of the policies, where as many as thirty to fifty estate men find wholesome amusement during the long winter nights, failing which there is generally a village of some sort near by, all of which nowadays have their reading rooms, and are ably supported and patronised by the young men from the gardens. For handiness, cleanliness, and comfort, the one-storeyed bothy will be hard to beat. A large room of any sort, heated by hot water pipes alone, does not find favour with the men. It has a dingy, dark appearance, especially so on a dreary winter's day, more likely to be shunned for the more cheerful kitchen fire, where you will be most likely to find the "family circle."—Mac, Edinburgh.

[The "Plan of a Garden" Competition, under the auspices of the Royal Caledonian Horticultural Society, having now closed, and very successfully, those who have gained experience in that competition might advantageously turn their attention now to the "Journal Bothy Plan" Competition.]

Runner Beans.

Seeing a note under this head in the "Work for the Week," may I remind you of my question of last year as to the advantage, or want of advantage, in staking the plants? As opinions seemed divided, I tried both ways, and we were satisfied that more pods were produced on the unstaked and stopped plants than on those treated in the old-fashioned manner. A little more width may be needed for each row, but this is compensated for by the absence of shading neighbouring crops; and, as stakes cost money, I shall not use any in future.—W. R. RAILLEM.

Bothies: Moral Nuisances.

I wonder what the majority of bothyites thought of the scathing indictment made on the bothy by "C. H. S." on page 411. Just to fancy the ideal of every embryo gardener when he first leaves home is a "moral nuisance." Perhaps the author may find time to tell us why. It is a curious thing if the bothy is what "C. H. S." calls it—that the many advertisements by journeymen and foremen should have appended "bothy preferred." It seems impossible for self-respecting, intelligent young men to prefer something that is a "moral nuisance." The advantages possessed by the bothy over lodgings are legion, and, being only too well known, it is unnecessary to enumerate them. Bothy life is not all honey, but it will soon make a man of the fop, and teach him the social duties he owes to those around him. Practical gardening commences to decay when "every effort is made to reduce them, with a view to total extinction."—H. R., Kent.

Naming Exhibits.

Numerous exhibits were disqualified at the Royal Caledonian Horticultural Society's Show, held in the Waverley Market, Edinburgh, on Wednesday and Thursday, May 7 and 8. It was with the greatest satisfaction that we noticed the ruling of the judges in these cases, and perhaps the "bought experience" will be the more impressed upon those who have suffered on this occasion. That the judges held by Rule 5 of the Society's schedule is worthy of all praise, though, of course, every judge ought inflexibly to follow the rules, and these should be incontrovertibly clear. How any man (or woman) can spend time and pains, usually a considerable amount of money as well, in attempting to produce a plant or a flower, or a collection of these, to beat those of somebody else, and yet flaunt success absolutely by some flagrant misapplication of standing laws or the disdaining of them altogether, is one of those mundane mysteries that I never hope to understand. Do exhibitors not know where to get their collections or their plants named? Do they not wish to know the names of the plants for themselves? And if they do not possess the names, can they possibly have an intelligent interest and regard for the subjects upon which they elaborate their attention? And are the Public not to be initiated to the classification, the relationships, and the names of members of a genus? These are points that would-be exhibitors should bear in mind; and all well-wishers of horticulture ought to assist towards their attainment.—J. H. D.

Roses: Budding Out of Doors in April.

I sent a note to the Journal a few years ago to point out the possibility of doing this, but never tried it myself till this year. Seeing a good account in Frank Cant's catalogue of "Boadicea, T." (Wm. Paul and Son, 1901), I purchased of him a grafted plant in pot last November. This produced in my greenhouse a good and lasting bloom in April, with which I was much pleased. There were two or three buds on the shoot which would do for budding; but where was I to find out of doors a stock whose bark would "run" suitably for such small buds at that time of year? It was not difficult. The laterals of my standard stocks, budded last July, are not cut back at first quite up to the inserted bud, but two or three wild buds are left, which are encouraged to grow a bit, to draw the sap. I soon found two or three standards where the inserted bud had failed, and a good, strong wild bud or two had grown out from the end of the lateral. The bark on this lateral, between the failure and the wild young shoot "ran" fairly well, and I thus put in three buds of Boadicea on April 24. One of these buds is to-day (May 8) decidedly growing, and is already $\frac{1}{2}$ in long, forwarder and more healthy looking than a good many put in last July, which I yet hope will do well. So I see no reason why this bud should not form a strong, healthy head this season; but I am inclined to think that the other two buds, which seem alive at present, will not be of any good if they remain dormant for any length of time.—W. R. RAILLEM.



To Make Cut Flowers Lasting.

As a rule cut flowers will last longer if allowed to stand a short time in water before using. This simply applies, of course, where they are to be worn or carried as a bouquet, or used in decorations where they may not be placed in water.

Japanese Fern Balls.

These balls, having been started into growth some time ago, will have nicely furnished the upper parts of the rhizomes, but the lower portion, or base of the ball, is usually bare. By turning the balls upside down every part will then break and become crowded with fronds.

Celsia cretica.

From a March, April, or May sowing of seed, plants of this handsome greenhouse plant can be easily raised. The seedlings may be pricked off and ultimately potted up, being grown on during the summer, and kept in a cold frame or greenhouse during the winter. Thus treated, they will bloom the succeeding summer. Mr. Weathers affirms that seeds may be sown in the open borders in southern parts, and allowed to grow on without any protection, being hardy enough. The species under notice is biennial, and a native of Crete. This, with *C. Arcturus*, furnish two handsome decorative plants for the conservatory.

Heuchera sanguinea splendens.

This variety of a beautiful and showy hardy plant does not always succeed so well as the owners could desire; and the cause is frequently attributable to much meddling treatment or to a cold, damp soil, or, on the other hand, an extremely dry soil. It flourishes, according to our experience, in a well-drained medium loam, in partial shade. Moisture it must have, but the drainage should be thorough. Flowering as it does from early summer until well into autumn, no border plant is showier or more graceful and beautiful. There is never too much of it in any garden. On rockeries it also succeeds. Sometimes it is cultivated as a pot plant for earlier flowering. For table decorations it supplies a charming inflorescence, which is also much in request. Even out of flower the heart-shaped foliage is handsome, like that of the *Epimediums*. In propagating this plant, division of the crowns in autumn is generally adopted.

The Season of Tulips.

Never within my memory have I seen the Tulips depart so quickly as this season, and to market gardeners especially, who trust to their outdoor stock, the severe frosts of the last few nights has proved most disastrous. Such sorts as Keizers Kroon, Wouverman, Joost Van Vondel, and Duchesse de Parma have all been so severely tinged at the tips as to make them of far less value, customers preferring, as the saying goes, "to pay a price for the genuine article." Whilst on the subject of Tulips, has it often occurred to growers that the double Tulips withstand a greater amount of storm and wind, and last absolutely longer than many of the singles? Yet they are not brought nearly so much to the front as they ought to be. [We quite agree with our correspondent.] Far be it from me to decry any of these charming coloured flowers, but it is only in such seasons as these that other preparations come in useful, and I only do so from the fact that last week's hailstorms have almost torn the singles to ribbons, whilst the doubles only require a damaged petal or two to be removed to show their beauty. Soon the prejudice to the princely Tulips will be overcome, for there is no doubt that it exists to an enormous degree in private gardens, many simply ignoring them. [What finer than Darwin Tulips for table decoration in a cut state?] This morning I cut some, stout of stem and petal, lovely pointed buds of various hues, and scarcely showing signs of severe weather. In striking contrast were some of the Parrot varieties, glorious hued, but lacking strength of stem. The past has gone, but the future is left for development.—R. P. R.

To Preserve Flowers.

Several methods of preserving the natural colour of pressed flowers have been suggested, but the best, it is said, is that used in the New York Botanical Garden. After the specimens have been under pressure for a day or two they are laid in papers heated in the sun, and this is repeated until the drying is completed. This, it is said, preserves the colours perfectly.

Three Showy Pelargoniums.

For pot purposes or for bedding there are three zonal Pelargoniums, or "Geraniums," as they are more commonly called, which are but little known, and yet have considerable merit from two or three points of view. These are Knight's Jubilee (rosy pink), Sir Walter Scott (deep scarlet, with a showy white eye), and the single King of Denmark (generally named the "Single Denmark"). The latter has large and open trusses, and makes a good bedder. The flowers are salmon-ochre or salmon-pink. These were noted at Butcher's Nursery South Norwood, a week or two ago. Standard Fuchsias are a feature there.

The Snow-white Bloodroot.

Last spring, 1901, the writer met with a sight so impressive it is not likely soon to be forgotten. Driving along a country road, the carriage in which we were seated (says a writer in "Meehans' Monthly") was brought to a halt alongside an unpretentious wood, and following our first inclination, which is always to look around for flowers, we mounted the fence to take a general survey. The sight that met our gaze on the forest carpet was a literal mass of white flowers—the Bloodroot, *Sanguinaria canadensis*. This was perhaps no unusual display in many localities; but it is not always we stir around about the woods at the proper time, for they do not last long. The snowy white flower of the Bloodroot is not surpassed by any other flower. With such an abundance for Nature's own use, two or three can easily be spared the flower worshipper, and may be transplanted to the garden or partly shaded rockery with perfect ease.

Cherry House.

The Cherries are ripening rapidly, and they must be kept dry, but keep the surface of the borders moist by damping with the syringe, air being admitted constantly, or condensation will seriously affect the fruit. The moisture of the border is apt to be miscalculated by the moisture from syringing, the surface appearing damp. Therefore it should be examined, and water supplied to keep the soil moist down to the drainage. Tie in the shoots as they advance, and stop those required to form spurs at about the fifth leaf. Black aphides may be kept under by dipping the shoots in tobacco water, gently rubbing them with the fingers, or their shining bodies will throw off the decoction and escape. Ventilate freely on all favourable occasions, and when the external conditions are favourable recourse must be had to the heating apparatus to insure a circulation of air. Netting will be necessary over the ventilators to prevent birds attacking the Cherries. Trees in pots should be well supplied with water.

What is a Cactus Dahlia?

This is a question addressed to us from the Antipodes, where an exhibitor had shown Miss Webster amongst a collection in a class for Cactus only. Now Miss Webster happens to be one of the best decorative Dahlias, splendidly pure white, and is said by the Nat. Dah. Soc. to approach Cactus form, but the petals are too flat as a general rule to permit its being generally classed as a Cactus. All growers, however, of Cactus Dahlias know, first, that there are two or three different types of Cactus already; and, secondly, that most true Cactus forms will, late in the season, give flowers with flattish or even quite flat petals instead of the orthodox twisted or recurved shape. At present, therefore, it is undesirable, as it is almost impossible, to draw a rigid line between the two types—Decorative and Cactus. It would be better if schedule makers would for the present allow Cactus and Decorative to be combined, and word their schedule somewhat thus: "Cactus and Decorative Dahlias—Show, Fancy Pompon, and Singles excluded," and if they wish to favour Cactus, add "True Cactus forms with reflexed or twisted florets will be preferred." It costs very little to add a few explanatory words in a schedule, and it saves much heart-burning.—"Royal Horticultural Society's Journal."



CELSIA CRETICA.

Societies.

Royal Caledonian Horticultural, May 7th and 8th.

The Royal Caledonian Horticultural Society held their annual spring show on Wednesday and Thursday a week ago, and although quite a month later than last year, the society lost nothing by the change of date. Without doubt, the show must be classed as equal to any seen in the Waverley Market for some time, the whole of the large space being a mass of gorgeous colour. Notwithstanding that the competitive classes for nurserymen were omitted, the entries on the whole were higher than last year, being 511 in all; the classes for pot plants, cut flowers, and vegetables were all well filled.

The competition for plans by under gardeners brought forth twenty-one competitors, for which first, second, and third prizes were awarded and three were commended. This was one of the most interesting and instructive features of the show, and should be especially so to under gardeners. The judges for the plans were Mr. McHattie and Mr. Whitton, the superintendents of Parks of Edinburgh and Glasgow respectively, and reporting on the plans they congratulate the society on having started so useful a scheme, and on the success that has attended this first competition, believing that all who have entered for it, whether winning a prize or not, must have derived considerable benefit in doing so. Mr. Murray Thomson, the secretary, has taken a special care and interest in this competition and stimulated competitors, and we rejoice that he has been so well rewarded by its success. Sir John Gilmour, of Montrave, kindly offered prizes of three, two, and one guinea, and these were awarded as follows:—First, A. Trotter, Coolattan, Ireland; second, T. Smith, Cambuswithen, Ayrshire; third, R. Phillips, Glasgow Botanic Gardens. Sir John Gilmour has again generously offered prizes for another year.

In making a report on the nurserymen's classes it would be invidious to single out any one particular firm, all were so good. Messrs. Laird and Sons, Limited, put up a massive group in a most attractive form, making use of virgin cork. They set up an arbour and rustic bridge, around which were grouped tall Acers, Acacias, Eucalyptus globulus, and minor groups of fine Azaleas, Hippeastrums, Lilacs, Heaths, Rhododendrons, Lily of the Valley, and a host of other spring flowering plants, the whole making an effective group. It was awarded a Gold Medal.

Messrs. Dickson and Co., occupied a space of 30ft in the centre of the market and set up a splendid lot of plants. The centre was of Rhododendrons and tall Guelder Roses and Acers, round which, in small triangular form were fine groups of grand Calceolarias, Cineraria stellata, Richardias, Golden Alder (new), and a double Zonal Pelargonium named Coronation Gem, a very fine new variety either as a bedder or pot plant, and for which they were awarded a First Class Certificate. They also obtained a First Class Certificate for greenhouse Rhododendron James Welsh. Other subjects of note in their group were fine pieces of Crimson Rambler Rose, Azalea mollis, and A. indica, the group being in all a very pretty one, for which they were awarded a Gold Medal.

Mr. John Downie had a very fine selection of well grown spring flowering things, the idea in setting up being an underwork of dwarf plants over-topped by taller plants. The group was very fine and most attractive. Silver-gilt Medal.

Messrs. Methven and Sons put up a showy circular table of cut Tulips interspersed with table plants. Amongst the Tulips were some very fine varieties, and the table was a very interesting one. Messrs. J. and A. Glass, Nether Liberton, who are now recognised as the largest bulb growers in Scotland, had a very fine display of Daffodils. They were grown and shown in pots, and occupied a table over 40ft long, and looked splendid. Well up for 200 varieties were tabled, of which the following are amongst the newer varieties:—Shakespeare, Gloria Mundi, Lord Aberdeen, Apricot, Prince George, John Davidson, Alida, Sulphur King, Fred Moore, Remarkable, &c. Awarded Silver Medal.

Messrs. James Dickson and Sons set up a neat little table of well flowered spring plants, &c., including Azalea, Spiraea, Deutzia, Viburnums, &c., mixed up with Fern and cut blooms of Tulip and Narcissi. Silver Medal.

Messrs. Hogg and Robertson, Mary Street, Dublin, put up a fine lot of Irish grown Tulips, amongst which were grand forms of the Darwins in very pleasing colours; also some most striking forms of the Parrot Tulips in their grotesque forms and gaudy colours, all grown at their nurseries at Rush, co. Dublin. They secured a Gold Medal.

Mr. John Forbes, Hawick, had, as usual, a fine table of spring flowers, of which mention may be made of fine forced Tree Pæonies, Carnations, Cytisus, Genistas, and the splendid double variety of Arabis alba. A grand lot of Primroses were present, amongst which was a very fine blue one; also fine forms of the beautiful old Gold-laced Polyanthus. Mr. Forbes was also to the front with Begonia Gloire de Lorraine and Caledonia.

Messrs. Storrie and Storrie, of Dundee, set up a most noteworthy table, conspicuous on which were a very fine variety of the variegated Scotch Kale, nearly white, and very finely lacinated; also as fine a lot of Auriculas as have been tabled in the market for some time. They were awarded a Silver Medal.

Messrs. Cunningham and Fraser arranged their table in the form of a small rockery by the use of virgin cork, the pockets being filled by a fine collection of Alpine and other hardy spring flowers. Awarded a Silver-gilt Medal.

A First Class Certificate was awarded to Mr. Robert Lindsay, Kaimes Lodge, Murrayfield, for *Primula adonis*, a seedling raised from *P. ciliata purpurata*; also to *P. decora alba*, a sport found by Mr. Lindsay on *P. decora*.

For greenhouse Rhododendron James Whittier, exhibited by Alex. McMillan, Trinity, a F.C.C.

Award of Merit to Laing and Mather, Kelso, for new Carnation Duchess of Roxburghe, a very pleasing Fancy Carnation, illustrated in the *Journal of Horticulture*, July 25, 1901. It is a splendid new Carnation.

One of the most interesting and instructive experiments in the show was shown by Mr. Thomson, the society's secretary, who three years ago as a matter of curiosity fertilised a common yellow Primrose with the pollen of a dark red Polyanthus, and the following spring started similar experiments on a wider scale, and with more observation. So far the pollen parent has given the colour (which is recognised as the rule among hybrids), and the seed-bearing parent most of the character. Out of 300 plants not one bears the mother's colour, a fact which will please Mr. Burbidge should he see this paragraph!

C. W. Cowan, Esq., Valleyfield (Mr. W. Pirie, gardener), put up a stand of a new and rare Daffodil which took the attention of a large number of the visitors. Mr. Cowan is a widely known enthusiast among Narcissi, and as is well known possesses the rarest collection in Scotland. Amongst those of note, our attention was drawn to the following:—Ajax section: Big Ben, Lord Roberts, Shakespeare, Monarch, and Sol. Incomparabilis: Will Scarlet, Gloria Mundi, and Queen Bess. It has been remarked that competitors persistently ignore rule 5 of the prize schedule, which declares that "all articles must be correctly and legibly named," and our notice was drawn to the fact that the judges on Wednesday showed their disapproval of this by disqualifying large numbers of stands set up for competition.

List of Prizewinners.

For a circular table of plants arranged for effect: first, Mr. M. McIntyre, The Glen; second, Geo. Wood. For six stove or greenhouse plants: first, McIntyre, who had grand specimens of Rhododendron, Heaths, &c., including the finest sample of Anthurium Scherzerianum Wardi ever seen in the market; second, Mr. Geo. Wood, also with a fine lot.

The invincible Mr. McIntyre and Mr. Geo. Wood were found together in very many classes, and others who were specially distinguished with successes included Messrs. James Bald, of Canaan House, Edinburgh; J. Pearson, Beechwood; D. Kidd, Carberry Towers, Musselburgh; R. Stewart, Rockville, Murrayfield; G. Chaplin, St. Leonards, Dalkeith Road, Edinburgh. Mr. McIntyre even beat Mr. A. McMillan with a couple of greenhouse Rhododendrons: whatever's the matter, Sandy? Mr. Stewart's specimen Adiantums stood the test against those from Mr. Henderson, of Kirknewton, and Mr. Pearson, of Beechwood. Messrs. Chaplin and Wood, almost next door neighbours, contested for premier award with three pans of Selaginellas, those lowly plant forms, and Chaplin won. He only played third tune, however, in the class for six Calceolarias, his rivals being (1) Mr. D. Mackay, of Lasswade; and (2) Mr. T. McMorland, of Inveresk House. Mr. A. McMillan, Lanark, led for six Streptocarpus.

The Innerleithen grower Adam Brydon, and Robert M. Reid still stand true to their long-time loves, the Primroses. For six *P. vulgaris* varieties Reid beat Brydon, and Dickson, of Glenormiston, followed third. Mr. Reid won for six double Primulas. For six Polyanthus Mr. Dickson, above named, led off. Mr. Patterson, of Lasswade, was strongest in the true Auricula classes. The names of McIntyre, Wood, and Bald were almost the sole appellatives on prize cards for stove plants, Palms, and Tree Ferns. Mr. John Thom beat Mr. Wm. Galloway, of Gosford, for four pot Roses, and third, Mr. J. Bald.

Messrs. Thom and Bald stood thus for four distinct kinds of Pelargonium—stage, fancy, zonal, and Ivy-leaved. Mr. W. Galloway beat Mr. D. Sutherland, Colinton, for half a dozen Cinerarias. For four Orchids, distinct, Mr. W. Sharp, of Forgandenny, had premier honours with *Odontoglossum Alexandræ*, *O. vexillarium*, *Vanda tricolor*, and *Cymbidium Lovianum*. Mr. McIntyre was second. The latter led for two *Clivias*, splendidly flowered; Mr. J. Cowan, of Blackford Road came second.

Hyacinths were a poor show compared with times past. Messrs. A. Brydon, J. Meiklam, A. Dickson, and A. McInnes were the principal prize-winners. Classes for Narcissi were few. Primulas of sorts, and the numerous classes devoted to forced plants brought forth considerable entries. Mr. J. H. Cumming, Grantully Castle, led for the twenty-five best species or varieties of cut Daffodils; Mr. A. W. Cook, The Lodge, Batho, came second. For twelve ditto, Mr. A. Brydon beat Mr. G. Tweedie, of Duns; and third, Mr. Cumming. For two dozen Roses in eight varieties Mr. W. Young, of Kirkcowan, was first; Mr. Geo. Manson second, and Mr. D. Kidd third. For one dozen ditto Messrs. Young, Manson, and Armstrong were in this order. The best collection of vegetables came from Mr. J. Cossar, Dunbar.

Royal Horticultural—Drill Hall, May 6th.

Certificates and Awards of Merit.

The under-mentioned awards were given at the meeting in the Drill Hall on the above date.

Anemone St. Bridget (Reamsbottom & Co.).—An Award of Merit was accorded for the magnificent, large-flowered strain here shown.

Cattleya Mossiae Arnoldi, *Westfield variety* (F. Wellesley, Esq.).—A large flower with beautifully backward curving petals and sepals, which are fringed. The long lip opens out well in front and is conspicuously fringed, the centre of it is purple, with orange in the throat. The other parts of the flower are nearly white. Award of Merit.

Dendrobium × *Ethel* (Sir Trevor Lawrence, Bart.).—A sweet and delicately pretty hybrid from the parentage *D. japonicum* × *Rolfæ roseum*. The tips are faintest mauve, the rest snowy white. The flowers branch out in pairs from all sides of the slender pseudo-bulbs. Award of Merit.

Disa × *Luna* (J. Veitch & Sons, Ltd.).—A lovely flower of very distinctive form, the lip being turned vertically and shaded by a hooded sepal. The petals are oval. The form is after *D. racemosa*, the female parent, Veitchi being the male; the latter itself a hybrid. The colour is deep rose-mauve. Award of Merit.

Marillaria fractiflexa (Sir T. Lawrence, Bart.).—A Botanical Certificate was awarded to this species. The segments are long and cord-shaped, coloured cinnamon.

Narcissus Ada (Miss Willmott).—Evidently this has something of the *Johnstoni* in it. The corona is a decided ivory colour; the perianth is paler. First-class certificate.

Narcissus Cecil Rhodes (Miss Willmott).—A *Johnstoni* type, but with a wider trumpet and pale sulphury colour. Award of Merit.

Narcissus incomparabilis Moon Ray (Miss Willmott).—It has rather a long corona, and open. The colour is dull white. Award of Merit.

Narcissus Watchfire (Miss Willmott).—Of the *Barri* type, with rich orange-red crown and pale tea-coloured perianth. Award of Merit.

Odontoglossum crispum Fairy-footsteps (H. T. Pitt, Esq.).—A very large flower after the *Queen Empress* type, but otherwise like an ordinary *crispum* in colour. The petals are nicely spotted with red. Award of Merit.

Odontoglossum crispum Pittiæ (H. T. Pitt, Esq.).—An exceedingly richly spotted flower, of round form. The size is not very great, but the substance is. Marked rich chocolate on a white ground. First Class Certificate.

Odontoglossum Halli Queen Alexandra (H. T. Pitt, Esq.).—Large in size and rich in colour. The segments are dark chocolate tipped greenish-yellow; centre of the lip yellow. Award of Merit.

Odontoglossum Harryana crispa, var. *Duchess of York* (Baron Schröder).—A distinct flower, large in size, and coloured dull brown, tipped silvery. Award of Merit.

Odontoglossum Hystrix secundum nulli (H. T. Pitt, Esq.).—Segments curve at the tips inward. They are broad and stout, light chocolate colour, tipped yellow. Award of Merit.

Odontoglossum triumphans latisepalum (Baron Schröder).—The column (white) is very prominent here; the lip, shield-like, stands out beneath it. The other segments are oval-shaped, green tipped, and dark chocolate in colour. Award of Merit.

Pelargonium Colonel Baden-Powell (Chas. Turner).—An Ivy-leaved variety with large trusses of soft rosy-lilac flowers. Award of Merit.

Saxifraga Guildford Seedling (Guildford Hardy Plant Company).—A Mossy Saxifrage with open purple flowers; very attractive indeed. It is a seedling from *Saxifraga Rhæi*. Award of Merit.

Tulipa Gesneriana lutea pallida (Miss F. Currey, Lismore).—A magnificent Tulip, larger and finer than the majority of Tulips; intense bright yellow. Award of Merit.

Tulipa Nicheliana (Miss Willmott).—A bold, round-based flower, with segments that taper to a sharp point. The colour is vivid scarlet crimson, like *Papaver orientale*. The inside is black. Award of Merit.

Spilsby Narcissus and Tulip Show.

The first annual exhibition of the above society was held at the Drill Hall, Spilsby, on April 22, and may be considered to have been successful in every way. It was, however, unfortunate that the weather was so wet; this doubtless kept many visitors away who otherwise would have been present. Nearly all the local amateurs were represented, and the large growers who exhibited included Messrs. E. J. W. Disbrowe, of Benington; T. Kime, of Mareham-le-Fen; F. A. Walton, of Handsworth Wood, Birmingham; and J. T. White and Sons, Spalding. Twelve seedlings were staged for certificates, the awards to which will be found mentioned below. Messrs. Barr and Sons sent a magnificent collection of Daffodils, among which special mention must be made of *Weardale Perfection*, *Sequin*, *Princess Mary*, *Lady Godiva*, *Madame Plomp*, *Gloria Mundi*, *Vesuvius*, *Glory of Leiden*, &c. Messrs. R. H. Bath, Limited, staged a most attractive lot of flowers; in this collection the most prominent were *Duke of Bedford*, *Weardale Perfection*, *Glory of Leiden*, *Madame de Graaff*, *Gloria Mundi*, *Madame M. de Graaff*, &c. The stand was much enhanced in gaiety by vases of *Anemone fulgens* and *Muscari*. The collections of both these well known firms were the admiration of everyone.

The competition in class 1 was not so numerically strong as might have been wished, there being only three entries. Miss T. Kime, Mareham-le-Fen, carried off the leading award, being closely followed by Mr. E. J. W. Disbrowe, of Benington. The third fell to Mr. F. A. Walton. It is very unfortunate that the blooms in this exhibit were so much damaged on their railway journey to Spilsby. There were some lovely Daffodils among this lot, but their condition precluded any chance of a better prize than third. The table decoration class attracted seven entries and created much interest and admiration. Several were so excellent that judging became a difficult matter, which remark also applies to the bouquets, of which seven again appeared for competition.

In the seedling class Mr. Disbrowe exhibited two, both of which were in the biflorus section. First Class Certificates were awarded to each of these, namely, *Pride of Benington* and *Benington Beauty*. The former also received a Silver Medal. This is a flower of highest merit, showing wonderful substance in the perianth, and is quite distinct from any other variety. Mr. F. A. Walton staged ten seedlings, which were unfortunately in the same condition as his exhibit in class 1. Among them are, no doubt, seedlings which will be heard of again, but it was impossible to see most of them in their true character. A First Class Certificate was awarded to a fine yellow Trumpet named *Apollo*, noticeable for its erect carriage, so very deeply filled Trumpet.

The Silver Medals for premier blooms were awarded to Messrs. J. T. White and Sons, Spalding, in the *Magni-coronati* section for a particularly fine example of *Madame Plomp*. In the *Medii-coronati* section Mr. T. Kime, Mareham-le-Fen, carried off the medal with a magnificent *Duchess of Westminster*. Mr. A. M. Wilson, East Keal Manor, won the *Parvi-coronati* section for a good quality bloom of *Burbidgei Falstaff*. The competition in this section was weak, however, and it is hoped more will be shown next year. Mention must also be made of a splendid group of foliage plants with *Genistas* and *Hydrangeas*, lent by Messrs. Rendall and Son, Skegness, which added greatly to the attractiveness of the hall.

The prizes were awarded as follows:—Class 1.—A collection of Daffodils, twenty distinct varieties. First, Mr. T. Kime; second, Mr. E. J. W. Disbrowe; third, Mr. A. M. Wilson. Class 2.—Eight distinct varieties of *Magni-coronati*. First, Messrs. J. T. White and Sons; second, Mr. A. M. Wilson. Class 3.—Four distinct varieties of *Magni-coronati*. First, Mrs. Pocklington-Coltman; second, Rev. G. H. Hales; third, Mrs. Barker. Class 4.—Eight distinct varieties of *Medii-coronati*. First, Mr. A. M. Wilson; second, Mrs. Barker. Class 5.—Four distinct varieties of *Medii-coronati*. First, Mrs. Pocklington-Coltman; second, Messrs. J. T. White and Sons; third, Mr. H. Sharp. Class 6.—Four distinct varieties of *Parvi-coronati*. First, Mr. A. M. Wilson; second, Mrs. Pocklington-Coltman. Classes 8 and 9 did not fill. Class 10.—A bouquet of Daffodils. First, Miss Rawnsley; second, Mrs. Garfit; third, Mrs. A. M. Wilson. Class 11.—Table decorations. First, Mrs. Garfit; second, Miss Keller; third, Miss Rawnsley; fourth, Mrs. Nalder. Class 12.—Six distinct varieties of *Narcissi*, none of which must have cost more than 5s. per dozen bulbs. First, Mrs. Barker; second, Rev. G. H. Hales; third, Mr. H. Sharp.

Royal Gardeners' Orphan Fund.

The annual festival and reunion of the supporters of this charity was held on the evening of Thursday, May 8, at the Hotel Cecil, London, under Mr. Leopold de Rothschild's presidency. The object of the meeting was most successful, and Mr. Brian Wynne, the secretary, was delighted at being able to record a higher subscription list than he has had for six years, reaching about £711 odd. The chairman was supported by a host of leading London horticulturists. The loyal toasts having been submitted, the Chairman proposed "The Royal Gardeners' Orphan Fund," the name of Charles E. Keyser, Esq., a vice-president, being on the programme as seconder. The Fund exists for the benefit of the orphans of gardeners, and is now caring for seventy-five young persons. The number of orphans who have been elected to receive the benefits of the Fund during the past thirteen years is 143, and the total amount expended in allowances during the same period is £9,844 12s. 6d. It has thus a splendid philanthropic record, and it behoves all who have the means to contribute to its support to do so. The Chairman concluded by expressing the desire he felt that many would come forward and assist so deserving a charity. Last year's festival subscriptions amounted to £648 17s. 1d., and as this year's amount surpasses that figure, and most previous records, it is evidence of the feeling of gardeners and patrons of gardening in regard to the Fund, and is also testimony to the vigilance of the secretary. Mr. Leonard Sutton (the trustee elected in place of the late Mr. Smee) proposed "Gardeners and Gardening," seconded by Mr. R. Piper. The toast of "The Visitors" was in the hands of Mr. J. Assbee, while Rev. E. A. B. Sanders replied. Mr. H. B. May proposed "The Chairman," and Mr. H. J. Cutbush "The Press," to which Mr. R. Hooper Pearson gave the response. Both the dinner and the

programme were well arranged, and a most successful and enjoyable evening was passed.

The following are a few of the principal items which have helped to swell the grand total of the subscription list:—Mr. Leopold de Rothschild, £20; the Messrs. Rothschild and Sons, £50; Mr. Alfred de Rothschild, £10 10s.; Mr. N. N. Sherwood, £25; Mr. Leonard Sutton, £50; Mr. J. F. McLeod, £21; Mr. G. Reynolds, £36 5s.; Mr. James Hudson, £30; Mr. W. S. Deacon, £10 10s.; Sir Trevor Lawrence, Bart., £10 10s.; Messrs. Jas. Veitch and Sons, Limited, £10 10s.; Mr. Harry J. Veitch, £10 10s.; Mr. W. Nutting, £10 10s.; Mr. G. Cuthbert, £11 11s.; Mr. G. H. Richards, £10 10s.; Mr. C. E. Keyser, £10; Thames Bank Iron Co., £7 7s.; Mr. T. W. Sanders, £7 7s.; Messrs. Barr and Sons, £6 15s. 6d.; and friends in Covent Garden Market, per Mr. J. Assbee, £129 12s. The total subscription was £711, the largest that has occurred for six years past.

Royal Horticultural—Scientific Committee, May 6th.

Present: Dr. M. C. Cooke (in the chair); Messrs. Sutton, Druery, Veitch, Saunders, Bowles, Douglas, and Holmes, Dr. Müller, Revs. W. Wilks, Engleheart, and G. Henslow, hon. secretary.

Turnip seedlings.—With reference to Mr. Gould's account of the great variation in the seedlings of a "Red Tankard" Turnip, Mr. Sutton thought there must be some mistake, as it was contrary to all experience at Reading; but Mr. Wilks confirmed it in the case of Cabbages. Having an excellent variety, being very useful late in the season, he saved two plants for seed, covering them with a net. In the following year they produced all sorts of the most mixed forms of Cabbages, Coleworts, &c., but not one single plant like the parents. The committee would be glad to hear of any similar cases. The physiological interpretation would seem to be that, from constant indiscriminate crossings, Cabbages and Turnips, &c., have a very mixed constitution. As long as any kind is grown in masses the crossing keeps up an average form. When isolated, reversion to the various races takes place, the "blood" of which is in the individual. Mr. Sutton suggested experiments to be carried out at Kew or Chelsea to test these remarkable results.

Gooseberry trees dying off.—Mr. Wilks showed branches withering and dying. Mr. Veitch observed that it was not uncommon after an excessively dry season like the last, and that some varieties are more liable to perish than others, the more vigorous kinds withstanding it.

Primroses malformed.—Mr. Sutton brought specimens of umbellate, or, more strictly speaking "capitate," forms, the flowers being sessile on the top of a peduncle. There were four flowers with linear bracts. The central was multifid, with seven or eight petals, &c.; the other flowers were either normal or with a sub-petaloid calyx. The petal lobes in some were unequal. They were from a wood near Reading. He also brought from the same wood double-flowered wild Anemones. The late Rev. Professor J. S. Henslow collected them in Hitcham Wood, Suffolk, in 1845.

Tacca cristata.—Mr. Odell sent flowers of this anomalous plant, having one of the numerous filiform bracts, broadening at the base, thus reverting towards the form of the larger outer series. The question as to the function of the filiform appendages was raised, for they are suggestive of some similar use to those in certain Cypripedia.

Gloxinia flowers with excrescences.—He also sent blossoms with this well-known peculiarity, the special feature being the fact that their abnormal character was now very constant for four years on the same plant.

Palm diseased.—Mr. Saunders reports as follows upon the Palm submitted to him at the last meeting: "I have carefully examined the small Palm (Kentia) which I took away on Tuesday for that purpose. I forget the name of the grower, but we had some before us at a recent meeting of the Scientific Committee, which were reported on by Mr. Odell. At the roots of the Palm I found several specimens of snake millipedes (*Blanjulus gutturalis* and *Julus londinensis*); of the latter I only found one specimen. These are well known and most destructive pests. The only way of getting rid of them, short of repotting the plants and picking out the pests, is to bury small slices of Turnips, Carrots, or Potatoes in the soil just below the surface. The millipedes are very fond of these roots, and will probably be attracted to them. The traps should be examined every morning. If a small skewer of wood be stuck into each slice it will show where the latter has been buried, and render it easier to handle. I do not pretend to any special knowledge as to the cultivation of these Palms, but I should say that the one which passed through my hands was decidedly pot-bound."

Lastrea (Nephrodium) thelypteris, Marsh Buckler Fern.—Mr. Druery exhibited fronds of a very fine and thoroughly polydactylous variety of this species, found by Mrs. Puffer in Massachusetts, U.S.A.—a clump of 6ft by 2ft or 3ft widening—a very old plant. It is the more interesting as, although this species is indigenous

to Great Britain, and is locally abundant in many marshy districts, it has never even afforded a subvariety in this country, despite its having been certainly assiduously hunted for half a century. In this case the top of the frond to the pinnæ are foliosely multifid throughout.



Heuchera sanguinea.



Hardy Fruit Garden.

REGULATING WALL TREE GROWTHS.—The importance of keeping well in hand all the operations connected with the management of wall trees is recognised as largely assisting in promoting the health, vigour, and general cleanliness of the trees. During the early stages of growth the superabundance of shoots which push on the majority of trees may readily be dispensed with, though this should be done in a gradual manner by disbudding or rubbing off with the finger and thumb. This, however, cannot be done when the growths necessary to remove have extended in length and become strong. The knife should then be used, making clean cuts. The process of disbudding does not always clear away the superfluous shoots entirely, and many will remain for eventually removing. The best placed shoots to be found at the base of the fruiting growths of the present season are retained in the case of Apricots, Peaches, and Nectarines, one to each growth being usually found sufficient to lay in for the following season's fruiting. The leading growth of the fruiting shoot must be retained, as this draws sap to the fruit, and assists in its swelling and perfecting. Instead of rubbing or cutting out entirely the whole of the well placed growths, a selection may be made of the most suitable, and these shortened to three or four good leaves. Crowding must not be permitted. These will form artificial spurs, which will subsequently fruit. The laying in of shoots, even if they cannot be placed permanently in position, enables them to be more easily dealt with, as being young and supple, bending is more readily carried out. Morello Cherries are permitted to retain a larger number of shoots for laying in, because they can be trained closer together, while Plums and sweet Cherries may have the larger number of current year's growths shortened to form spurs. Shoots retained at full length on these are more certain of fruiting the second year than the first. A number of superfluous shoots may advantageously be removed from Apples and Pears on walls, but it is early yet to shorten back the foreright shoots for forming spurs.

THINNING FRUIT.—The crops of fruit on wall trees are not as yet making heavy demands on the trees; nevertheless, it is desirable to commence early in the removal of fruits unsuitably placed, or that are much crowded, especially in the case of Apricots, Peaches, and Nectarines, also Plums and Cherries. If a vigorous syringing is given to those trees which have recently set a good crop, nearly the whole of the small and unfertilised fruit is readily detached, but when advanced in size it is necessary to clip them off.

DESTROYING INSECTS.—The importance of maintaining the trees in a thoroughly clean and healthy state cannot be too often insisted upon, especially during the early part of the season, when attacks of insects are productive of much future evil by throwing the trees into a weakened condition. The causes of insects attacking wall trees may frequently be much mitigated. One great cause is dryness at the roots bringing the trees into a weakened condition primarily, thus rendering them an easy prey to insect and blight enemies. The main remedy should consist of first thoroughly moistening the soil below the roots, following this in the case of weakened trees by the application of some nourishing liquid manure. The next effort should be to cleanse shoots of the insects which have congregated. At this comparatively early period of the season aphides of various colours are the most generally prevalent on the points of shoots of Plums, Cherries, and sometimes Peaches and Nectarines. Various methods may be employed to destroy them, the most effectual, perhaps, being dipping each shoot in a solution of softsoap and tobacco water or petroleum emulsion. Afterwards syringe with a weaker solution of the latter, or any effective insecticide with good cleansing properties. This will also destroy or prevent an attack of red spider, which usually makes an appearance with dry, hot weather.

STRAWBERRIES.—Attention is required by plantations in feeding, watering, and mulching. Watering will benefit all plants growing in light soil should the weather be dry and hot. When the fruit has set, manure water from the farmyard, or solutions of artificial manure, guano, or soot, will also be helpful. These applications are much more effectual applied through a liberal mulching of manure, the latter being spread alike as sustenance for the roots, and to provide a clean bed for the fruit to rest on.

OUTDOOR VINES.—The superabundant growths on Vines should be dealt with early, or as soon as the bunches of fruit can be easily perceived, whereby the best and most suitable growth containing a stout bunch can be decided upon. On spur-pruned Vines one growth, or at most two, should only be retained. Strong shoots may be stopped at one joint beyond the bunch,

allowing weaker shoots to extend longer. Carry up a few growths from the base should new rods be required or there is room for such. If well ripened to the extent of 4ft they will be fruitful. It is best to stop them at that length, and let them extend afterwards at will.—EAST KENT.

Fruit Forcing.

VINES: EARLY FORCED HOUSES.—Where the Grapes are ripe, afford fire heat only to prevent the temperature falling below 60deg. Admit a little air constantly, with a free circulation when the weather is favourable. Do not allow the border to become dry, but keep it moist, and mulch with short, sweet litter, both to prevent excess of moisture and to keep the soil from cracking. A little moisture in the atmosphere will not injure the Grapes, and is highly beneficial to the foliage, which must be kept clean and healthy. Fumigation may be resorted to if thrips appear, repeating in the course of a few days. For red spider there is no better plan than the tedious process of carefully sponging the leaves with soapy water, but the fumes of sulphur are very hateful to red spider and fungoid germs; a little of a cream of sulphur and skim milk brushed on the hot-water pipes, and these heated to over 170deg for about an hour and the house closed, having a deterring effect. When the Grapes are cleared the Vines should be thoroughly syringed, this being one of the best means of freeing them from red spider and thrips, and where there is mealy bug using petroleum softsoap 2oz to a gallon of water.

SUCCESSIONAL VINERIES.—As little fire heat as is consistent with the steady progress of the Vines and their crops should be employed, for with sun heat and an abundance of atmospheric moisture more real benefit is gained in a week than in a month of dull weather with the aid of fires. The Vines being in full growth, the temperature may be allowed to rise to 90deg or 95deg, closing the house at 85deg, employing fire heat only to maintain a day temperature of 70deg to 75deg, and to prevent its falling below 65deg at night; yet 60deg less will do no harm, but good, when the weather is cold. These remarks apply only to Vines in full growth and swelling their crops, as those that have the Grapes approaching ripening should have a rather free circulation of air, those advanced in ripening being kept cooler and drier. Air should be admitted very early in the morning, as the sun's rays acting powerfully on the condensed moisture formed during the night usually causes scorching unless air has been previously admitted. Watering the borders must be attended to as required, not having stated times, but being guided by the soil's condition. More failures are the result of under rather than over-watering Vines, the borders being properly constructed and the drainage complete. Water may be required twice a week in the case of Vines restricted to narrow and shallow borders, and once a week for those that have a good run of border from the time the berries are thinned until the Grapes are changing colour, but retentive soils may only require water at fortnightly or three weeks intervals. This difference must be had regard to, for there is no question about a sodden soil being injurious to Grapes, and often a prolific source of shanking. Some loams are naturally very loose, sandy, or gravelly; while others have opening material added, as lime rubbish, oyster shells, and charcoal, which make them sieve-like. The consequence is the greater need of water, besides the danger attending the finish of Grapes grown on such soils through insufficient supplies of water leading to thin foliage and attacks of red spider, which does not assimilate and store nearly as much essential matter as the stout leaves on Vines in a firm, substantial soil of a rather retentive nature. Such soil will require water less frequently, but in no case must there be lack of moisture at the roots throughout the swelling periods. Liquid nourishment is also more frequently required by loose and light soils than by compact and retentive ones. All will need top-dressings of some approved fertiliser, three times being advisable—(1) When starting the Vines; (2) when the Grapes attain to thinning size; and (3) when the berries have completed stoning, supplying 4oz per square yard at each dressing and working in lightly. If more stimulation is needed, supply the manure oftener; this is better than increasing the quantity each time and at long intervals.

LATE HOUSES.—In most cases the work now on hand is considerable in thinning the berries, and it will continue for some weeks, as in many instances the Vines are only in flower. In the latter case maintain a minimum temperature of 65deg to 70deg, 70deg to 75deg for Muscats, shaking the Vines twice a day to distribute the pollen, which will be sufficient for all but the shy setters, and these ought to be artificially fertilised, going over the bunches carefully with a camel's-hair brush and supplying pollen where it is deficient from those that afford it freely. All the large berried and free-setting varieties, such as Gros Colman and Gros Guillaume, should be thinned while they are in flower; and with those that are liable to have closely-set berries it is advisable to thin before the flowers expand, as a practical eye can tell which flower will set by its vigour, and the removal of the weaker sometimes strengthens those left wonderfully. While the Vines are in flower moderate moisture, with a rather free-

circulation of warm air, is desirable; it is also inadvisable to stop or remove laterals while the Vines are in bloom, but when the berries are fairly set remove superfluous laterals and pinch as required, both to prevent overcrowding and concentrate the supplies of nourishment on the Grapes.

PLANTING GROWING VINES.—From now to the early part of June is a good time to plant out those raised from eyes in February or March, and grown in pots or turves. The roots must not be disentangled, as they will scarcely have acquired a corkscrew formation; yet turf-raised Vines are better than potted ones, as they form a straight but fibrous root, and are not so prone to descend deeply as those turned out of the pots with the ball entire. Compact the soil well about the balls or turves, give a good soaking with water at 90deg, and mulch with about an inch thickness of short and rather lumpy manure. Maintain a rather humid atmosphere, and shade from bright sun until the Vines become established.—**ST. ALBANS.**

Nature Notes.

Horse Chestnuts have the lower flowers of the thyrsus now fully expanded.

The following appear about this period: Daddy Longlegs, Dot Moth, and Spotted Flycatcher. The Reed Bunting also lays about this period.

Large numbers of bees, both hive and wild, have been much injured on certain of the late windy days when out gathering honey from the various flowering trees.

On May 9, and succeeding days, occurred at St. Pierre, Martinique, and St. Vincent, two West Indian islands, the most fearful cataclysm that has occurred in modern times, involving the deaths of 50,000 persons.

A blackcap (says a daily paper) has built a nest and is now sitting on a clutch of eggs in the pump which stands in the prison yard at Terrington, King's Lynn. The bird can only get into the pump through the handle aperture. It is quite common for robins and wrens to build within disused pumps, entering by the spout.

North and east winds have blown steadily for three weeks past, the weather having been bitterly cold in all parts of the United Kingdom, and also on the continent of Europe. A beggar was frozen to death in Belgium only a few days ago, and it was reported on the 7th inst. that wolves were descending to the Italian plains from the Apennines.

Is not the fly referred to on page 419 by "H. R. R." in "Nature Notes," *Bombylius medius*?—**H. S. R.**, Sawbridge-worth, Herts.

It is not easy sometimes for an entomologist to recognise what an insect is when only seen on the wing, and from "H. R. R.'s" description I thought this was lepidopterous. Probably it was *Bombylius major* or *medius* (as suggested by "H. S. R.") a two-winged and therefore true fly, having a furry back and broad abdomen, with black hairs interspersed with lighter, and wings half white, half brown, or black. Proboscis long as the body, or nearly, it hovers over flowers. But I should not have thought it would be in flight quite as early.—**J. R. S. C.**

I read with much interest the paragraph anent insect with long proboscis under the above heading. Your correspondent "E. O. P." need have no fear about handling the insect. I can honestly vouch for its harmlessness, for I handled the specimen I caught without being injured. I let it walk about my hands and held it between my thumb and finger, so that if it were really inclined to sting it surely would have done so. I am very sorry now that I did not send the insect to be properly identified; but I thought a description would be enough, so let it fly away. I do not know any of the bee hawks, but somehow I hardly like to believe that the term "tongue" can be rightly applied to the organ possessed by the insect in question. The organ is composed of a hard substance, for it was always perfectly rigid and quite incapable of being made shorter, either by rolling or withdrawal. The insect could also, at will, put the proboscis in such a position as to be in a straight line with the body, or, as when on the wing, turned downwards at right angles with the body. Do not the black spots on wings help in any way to solve the identity? Also, it only has two wings; the antennæ are very short. When walking its movements are far from being graceful.

The extremely cold weather makes cuckoos and nightingales very quiet. I noticed first Hawthorn (*Crataegus oxyacantha*) flowers on the 4th inst.—**H. R.**, Kent.

As an index of the comparative earliness of the season, notwithstanding the prevailing cold weather which so far characterised the past month of April, in referring to my notes I find that my large tree of Summer Thorn Pear was only in full bloom by May 4 last year, whereas it was so by April 25 this year. The same remark also applies to three other equally large trees of the same variety close at hand in a neighbouring garden.—**W. G.**, Harborne, Staffs.

Coleridge on The Nightingale.

And hark! the nightingale begins its song,
Most musical, most melancholy bird.
A melancholy bird. Oh! idle thought,
In Nature there is nothing melancholy.
'Tis the merry nightingale,
That crowds, and hurries, and precipitates
With fast thick warble his delicious notes,
As he were fearful that an April night
Would be too short for him to utter forth
His love chant, and disburden his full soul
Of all its music.

Covent Garden Market.—May 14th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.				
Apples, cooking, bush.	6	0 to 8	0	Grapes, Hamburgh, lb.	3	0 to 4	0		
„ Tasmanian ...	11	0	15	0	Lemons, Messina, case	10	0	12	0
Apricots, boxes ...	1	0	1	3	Oranges, ease ...	10	0	25	0
Bananas ...	8	0	12	0	Pines, St. Michael's,				
Cherries, boxes ...	1	3	1	6	each ...	3	6	5	0

Average Wholesale Prices.—Vegetables.

	s.	d.	s.	d.		s.	d.	s.	d.		
Artichokes, green, doz.	2	0	to	3	0	Lettuce, Cabbage, doz.	1	0	to	1	3
„ Jerusalem, sieve	1	6		0	0	Lettuce, Cos, doz. ...	3	0		4	0
Asparagus, English, 100	2	0		2	6	Mint, doz. bun. ...	4	0		6	0
„ Spanish, bun.	1	0		1	3	Mushrooms, forced, lb.	0	8		0	9
„ Toulouse, „	1	6		2	0	Mustard & Cress, pint.	0	2		0	0
Batavia, doz. ...	2	0		0	0	Parsley, doz. bnchs. ...	3	0		4	0
Beans, French, lb. ...	0	8		0	9	Potatoes, English, cwt.	3	0		4	0
Beet, red, doz. ...	0	6		0	0	„ „ new, lb.	0	4		0	5
Cabbages, tally ...	3	0		5	0	„ Algerian, cwt.	13	0		0	0
Carrots, new, bun. ...	0	8		0	9	Radishes, doz. ...	0	9		1	0
Cauliflowers, doz. ...	2	0		3	0	Seakale ...	1	0		1	3
Corn Salad, strike ...	1	0		1	3	Spinach, bush. ...	3	0		4	0
Cucumbers doz. ...	2	0		3	0	Tomatoes, Canary					
Endive, doz. ...	1	6		0	0	consignment ...	4	0		4	6
Herbs, bunch ...	0	2		0	0	Turnips, bnch. ...	0	6		0	8
Horseradish, bunch ...	1	6		0	0	Watercress, doz. ...	0	6		0	0
Leeks, bunch ...	0	1	½	0	2						

Average Wholesale Prices.—Plants in Pots.

Most of the undermentioned plants are sold in 48 and 32-sized pots

	s.	d.	s.	d.		s.	d.	s.	d.		
Aralias, doz.	5	0	to	12	0	Geraniums, dblc., doz.	6	0	to	0	0
Araucaria, doz.	12	0		30	0	Grevilleas, 48's, doz. ...	8	0		5	0
Aspidistra, doz.	18	0		36	0	Heliotropes	6	0		8	0
Crotons, doz.	18	0		30	0	Hydrangea Thos. Hogg	10	0		12	0
Cyperus alternifolius						" pink	10	0		12	0
doz.	4	0		5	0	Lycopodiums, doz. ...	3	0		0	0
Dracæna, var., doz. ...	12	0		30	0	Marguerite Daisy, doz.	8	0		10	0
" viridis, doz. .	9	0		18	0	Mignonette	6	0		8	0
Erica candidissima ...	18	0		30	0	Myrtles, doz.	6	0		9	6
" Cavendishii ...	21	0		48	0	Palms, in var., doz. ...	15	0		30	0
" Persoluta ...	18	0		21	0	" specimens ...	21	0		63	0
" ventricosa nana	18	0		21	0	Pandanus Veitchi, 48's,					
" coecinea ...	18	0		21	0	doz.	24	0		30	0
Ferns, var., doz.	4	0		18	0	Pelargoniums, doz. ...	10	0		15	0
" small, 100 ...	10	0		16	0	Primulas	3	0		4	0
Ficus elastica, doz. ...	9	0		12	0	Shrubs, in pots	4	0		6	0
Foliage plants, var, each	1	0		5	0	Spiræa japonica, 48's,					
Fuchsias	6	0		8	0	doz.	6	0		8	0

Average Wholesale Prices.—Cut Flowers

	s. d.	s. d.		s. d.	s. d.
Arums, doz.	4	0 to 5	0	Maidenhair Fern, doz.	
Asparagus, Fern, bnch.	1	0	2	bnchs.	4 0 to 5 0
Bouvardia, coloured,				Marguerites, white,	
doz. bunches	6	0	8	doz. bnchs.	4 0 0 0
Carnations, 12 blooms	1	3	1	„ yellow, doz. bnchs.	2 0 0 0
Cattleyas, doz.	8	0	12	Myrtle, English, per	
Cornflower, doz. bun.	1	0	1	bunch	0 6 0 0
Croton foliage, bun. ...	0	9	1	Narcissus Poeticus, doz	1 0 1 6
Cycas leaves, each ...	0	9	1	„ double white,	
Cypripediums, doz. ...	2	0	3	doz. bunches	6 0 8 0
Eueharis, doz.	0	0	3	Odontoglossums	4 0 0 0
Gardenias, doz.	2	0	2	Orange blossom, bunch	2 0 3 0
Geranium, scarlet, doz.				Primula, double white,	
bnchs.	4	0	6	doz. bunches... ..	6 0 8 0
Gladiolus, white, doz.				Roses, Niphetos, white,	
bunches	6	0	8	doz.	1 0 2 0
Gypsophila, doz. bun.	6	0	8	„ pink, doz.	2 0 4 0
Iris, Spanish, doz. bun.	6	0	9	„ yellow, doz. (Perles)	1 0 2 0
Ivy leaves, doz. bun. ...	1	6	0	„ Maréchal Niels ...	2 0 4 0
Lilac, French, white,				„ Generals... ..	2 0 4 0
bunch	3	6	0	Smilax, bunch	4 0 6 0
Lilium Harrisii	3	0	0	Stephanotis, doz. pips	2 0 0 0
„ laneifolium alb.	2	0	2	Stock, double, white,	
„ l. rubrum... ..	2	0	2	doz. bun.	2 0 2 6
„ longiflorum	3	0	4	Sweet Peas, white and	
Lily of Valley, 12 bnchs	6	0	18	coloured, dozen bun.	6 0 8 0
				Wallflowers, doz. bun.	2 0 3 0



TO CORRESPONDENTS

* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

SCHIZANTHUS (H. R.).—We have written to the introducers of the novelty.

DAIRY MAID.—With our sincerest thanks we accept your very kind remembrance. Thoughtfulness put in the practical form is unmistakeable.

BOTANY BOOK FOR A CLASS (Bristol).—We are sorry not to have answered you last week. The only book at the price you name, and which may be suitable, is "Hooker's Primer of Botany," 1s. net, which you could get through Messrs. Wesley and Son, Essex Street, Strand.

AURICULA FLOWER (G. Brackenbury).—We do not reply privately. Your flowers, having been improperly packed, were sadly bruised and flattened when they reached this office. The pale primrose colour and great size are points worthy of notice, and otherwise the flowers are decorative, but would not suit the fancier.

LILIUM SPECIOSUM (G. S.).—The bulbs should be potted so that their tops are just level with the soil. The pots should be left with an inch or two of space for top-dressings. Roots emerge from the base of the flower stems *above* the bulbs, and these require to be supplied with nourishment derivable from a top-dressing. The surface roots should be under soil.

TULIP BULBS FOR EXAMINATION (Troubled One).—The bulbs have had the centres, or fleshy parts, eaten out by some pest, and accords with the work of the Narcissus fly, but the grubs in the moss, which had escaped from the bulbs in all probability, hardly accord with that species, *Merodon equestris*, they being more in character with Leather-jackets, or larvæ of the daddy longlegs (*Tipula oleracea*), but they have not the toughness of the Leather-jackets. As the whole bed annually fails, and the bulbs are certainly destroyed by some grubs, probably those enclosed to us, we should give the ground a dressing of a mixture of basic cinder phosphate, 32 parts (pounds or ounces), and kainit, 12 parts, mixed, applying 2lb of the mixture per square yard, digging in and mixing evenly with the soil some time in advance of planting the bulbs, forking over the bed again before planting. After planting apply a top-dressing of nitrate of soda, finely crushed, at the rate of 1oz per square yard, and leave for the rains to wash in. We have found this treatment successful where bulbs have died off; indeed, have this year a fine display of Tulips in a bed where there was a failure in several consecutive years from decay in a similar manner to your bulbs. We are keeping a grub, and may probably be able to identify the perfect insect if one emerges, and, in that case, will refer to the matter again.

GARDEN INFESTED WITH WIREWORM (F. G. J.).—The ground infested with wireworm and dressed with a good coating of gas lime last November, which has not proved successful, the pests being "as thick as ever," probably through the gas lime not being fresh from gas works, or the wireworm so low down as not to be reached, may now, as the pests are destroying everything in the way of crops, be dressed with rape dust at the rate of 7lbs per rod, which attracts the wireworms, they feeding upon it greedily in preference to the crops. In a day or two afterwards the ground should be dressed with mustard dross, a preparation to be had from mustard manufacturers, at the rate of 1½cwt per acre, or about 8oz per rod, or about 4oz per square yard. The mustard dross will probably have a slightly prejudicial effect on growing crops; but this would be only temporary, and the rape dust will act as a fertiliser, as also as a temporary remedy for the wireworm, while the mustard dross will destroy them. The mustard dross should be evenly distributed by a bellows apparatus, or on a small scale by an ordinary kitchen dredger. The ground should be lightly pointed over as far as can be done, on account of the crops, either before or after the dressing with the mustard dross. We use the rape dust, and in a day or two point in, as this is necessary or advisable to derive most benefit from the dressing as manure, and on the freshly turned-up ground dust the mustard dross, the effect of which on the larvæ of some species of *Elateridæ* or beetles known as Skipjacks and Click-beetles (*Agriotes lineatus*, *A. sputator*, and *A. obscurus*) is really marvellous. The mustard dross is preferably applied in advance of cropping, care being taken not to apply too much. No doubt the sawdust you allude to would favour the presence of the wireworm.

ACHIMENES BULBS (G. S.).—Answer next week.

TURPENTINE BARREL FOR VEGETABLES (E. C. W.).—You should dry the barrel and slightly char the inside (with a truss of straw) in order to destroy all traces of the turpentine.

SULPHURIC ACID AS AN INSECTICIDE AND WEED-KILLER (Nil Desperandum).—Although weak solutions of sulphuric acid, or oil of vitriol, have been used for syringing plants to destroy insect pests, it cannot be recommended, as it more or less injures the foliage—even a 1 per cent. solution, or 1oz to 100oz, or 5 pints of water. Weaker solutions have a more or less injurious effect on the foliage, and there are various insecticides much preferable to use in this way. For destroying coarse weeds on lawns, such as Plantain, Dock, and Dandelion, sulphuric acid is used effectively by dropping a little (one drop of the article by means of a notched stick) in the heart of the weed. To destroy weeds on walks the sulphuric acid is used in the proportion of 1 to 30 parts, or 1lb of vitriol to 3 gallons of water, the solution being prepared in a wooden pail or tub and applied with a well-painted watering can, the operator stepping backwards and watering as he goes, taking care to keep clear of the edgings and to avoid splashing the mixture over the clothes and boots. An evening after a hot day should be chosen for applying the mixture, and on the following morning the path will not injure boots after the dew is off, while the weeds will either be dead or dying. In a day or two the dead weeds may be brushed off.

NAMES OF PLANTS.—*Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number.* (J. Thorn).—1. *Cytisus præcox*; 2. *Polygonatum macrophyllum*; 3. the leaf of *Sanguinaria canadensis*, the juice is not poisonous, but is used as a dye; 4. *Rubus deliciosus*. (B.).—*Homeria corallina*. (W. D.).—*Ceanothus azureus*. (J. F.).—1. *Polygala oppositifolia*; 2. *Rhododendron arborescens*; 3. *Phyllostachys nigra*; 4. *Cercis siliquastrum*; 5. *Akebia quinata*; 6. *Begonia manicata*. (Forty Years' Subscriber).—Next week.



Victoria, Australia.

In comparison with the other divisions of Australia, Victoria is small. It is bounded on the N.N.E. by New South Wales, on the W. by South Australia, S.S.E. by the Indian Ocean, Bass Strait, and the South Pacific Ocean. But, small as it is, we believe it boasts the biggest and oldest town—Melbourne; and its chief exports are wool, between £7,000,000 and £8,000,000; gold, £3,000,000; bread stuffs, £1,397,983. It is eminently an agricultural province, and has a temperature ranging from 105deg to 30deg F. Among its officials we find a Minister for Agriculture, and we have before us part II. of the first volume of its Agricultural Journal. It is sent over to us here that we may see what steps are being taken in that far-off land to further and improve agricultural knowledge. We wonder how long agriculture was a staple industry here before being recognised by Government, and before annual or bi-annual records were published. We think it would be well for one's peace of mind not to inquire into these things too closely. Perhaps we shall never be asked the question directly; if we are, we must temporise, or refer the questioner to Hanover Square, whence all knowledge emanates.

We find in the colony there has been a Chemist for Agriculture for some years, and it is owing to his exertions that many experiments in relation to the action of various manures have been worked out. There was no official experimental farm, and no Rothamstead, so that the work had to be done where and how it could; that is, the experimentalist had to throw himself on the mercy of the various farmers of the district. At first the work was uphill, we suppose the agricultural mind did not realise the ultimate value of tests; but now, in 1901, the question is not where to find suitable plots of land, but how gracefully to refuse the too abundant offers. The land or plots were there for the work, but all could not be utilised for lack of funds. Victoria has an immense Wheat-growing area, so we are not surprised to find that many varieties have been tested; but we had hardly realised that there were so many as 103. We see also there have been many experiments in fruit manuring; at any rate, we hope there will not be the

reflection passed on Victorian orchards which is accorded to many an English one, i.e., that the trees are old and generally very much neglected.

There is a capital paper contributed on "European Dairying," by T. Cherry, lecturer on bacteriology, Melbourne University, who was sent over by the Minister of Agriculture to see how things were done here. He visited Switzerland, Paris, London, Belgium, Holland, N. Germany, Denmark, Sweden, and had nearly three months in England, returning by N. France and the Rhine. We see the paper is to be continued in a later issue, but as far as it goes it is most exhaustive.

Next we come to something we want here, and that badly. The first of a series of lectures to be given to State school teachers attending the Summer Training College. This lecture is on "the composition of milk and its physical characteristics." There are certain easy experiments to be tried, and if lessons of this sort on the lines here indicated fail to interest the children and give them some notion of the value and uses of milk it must be the teacher's fault. We should like to see a further list of subjects. We should class this as a glorified object lesson scientifically demonstrated. Still on milk. No good results for butter where any atom or suspicion of dirt is permitted—the old story, good stuff spoilt by carelessness respecting detail.

Cows.—These good people have more quickly arrived at the solution of some of the great agricultural problems than we. It has long been stated that cows vary in value of their milk in a most wonderful manner, many never being worth their keep; but this fact has by no means been universally acted upon; but the Victorians not only have found out the fact, but are taking active steps to eliminate from their herds all inferior cows, keeping only the best and truest types. They have got a long way on the road that leads to "grading up." There is a capital sketch of a cow, a typical dairy animal. In the shire of Narracan we find from the inspector's report there are something like 9,000, and 180 hand and thirty-five steam separators. One enterprising farmer has introduced two milking machines, which, if they answer well, will doubtless be taken up by a large majority of the dairymen.

Evidently there is a future for wine makers in Victoria, and attention is being paid to the Grape Vine, and some of the best French methods of manufacture are advocated. After the agriculture proper, there is a section devoted to horticulture, which really should always go hand in hand with the first-named one, being only an elaborated form of the other. The first paper is on "Quality in Fruit." Here again, comes the old story, the best, and only the best, worthy of cultivation. We knew the old adage about beating the Walnut tree; but we did not know that "peppering" fruit trees with blunderbus and flintlock, or the hammering into the bark of old nails, &c., was a form of pruning, now happily discarded for better and newer methods. Fruit, flowers, vegetables, all get their share of attention, and then we are turned off on to the tobacco industry. It is stated that the moth whose grub does such damage to the young plants shows a great predilection for Honeysuckle, and while feeding on it many were destroyed. The Mason wasp, too, was seen to carry off the grub, and in so doing proves a valuable ally to the grower.

With all the stock the country carries there must be an immense quantity of hides, far more than can be used at home; but the tanning industry is so far in its infancy that the leather produced is not acceptable in the European markets. The subject is to be taken up; in fact, is taken up, and with trained curriers we see no reason to doubt that the leather of the future will be quite equal to any of home manufacture. Meat being cheap, a charge is brought against the butchers for badly flayed hides, and against the cattle owners for deeply branding.

There are two coloured plates, beautifully executed, of insectivorous birds. The nankeen kestrel and the Australian bee-eater, the latter most attractive in appearance. Fortunately for these birds, as well as for many others, there are strict Game Laws. It is greatly to the discredit of human nature that beautiful birds and animals unless strictly preserved are almost sure to stand the chance of becoming extinct.

It is not only in English farm houses where poultry is badly prepared for market. There is nothing like ocular demonstration, and here we find a page of poor miserable creatures badly dressed, and out of all shape and form,

with the legend underneath, "How not to do it." There is another photograph of birds, looking quite their best, neat, tidy, compact, quite another race of beings. It does seem a pity to see good food spoilt, or, at least, depreciated so much in value by sheer carelessness. Mysterious deaths among poultry having been reported, an expert was sent to investigate the cause, which he found to be due to a parasite (*Argasides*), or fowl tick. The matter has assumed serious proportions, and threatens to spoil the large trade established in dressed birds. However, stringent measures are to be taken, and possibly this pest will be stamped out, the Minister of Agriculture not considering this matter as being too small to come under his careful consideration.

As much butter is shipped for export, the Government have started butter competitions with prizes, as tending to keep makers up to the mark. The selection of judges (three) appears to us very fair. One is to be chosen by the competitors, one by the agents, and one by the Government. Here is an opening for the best butter, carefully packed in tin cases, at the different Chinese ports. At Shanghai extra California, packed in the glass jars, makes 5s. per lb. Japan and the Philippines also have promising markets for good butter.

There is a pictorial object lesson for butchers in dressed lamb. What a difference good dressing makes. When in the two months of November and December 100,000 carcasses were frozen at the Government cool stores, we begin to see what a big thing this export lamb trade is, and it seems a folly to run any risk of spoiling it by killing inferior meat or by badly dressing the good.

There is an Agricultural College at Dookie, and as the farm has an area of 4,860 acres there is room for practical demonstration for all the pupils. Stock kept on the farm is as follows:—2,000 sheep, 150 cattle, 50 horses, and so forth. Fees, £25 per annum, with extra £3 for medical attendance, books, laundry, and mending, and there are also several scholarships. Wine-making is one of the subjects taught.

We have been very pleased with the little volume, and congratulate our Victorian cousins with being so up-to-date.

[Part 1, vol. 1, was issued in January, 1902. Copies are obtainable at the Agricultural Dept. Offices of the Victorian Government, 153, 155, Leadenhall Street, London, E.C.—ED.]

Work on the Home Farm.

We have had a week of very cold winds, with occasional heavy showers of rain and sleet. It has not been ideal weather for vegetation, but nevertheless the crops look fairly well. The Wheat has all been well harrowed, and looks much better for it. The thin Wheat is improving rapidly, and is proving the good condition of the land. Harrowing such a thin plant is rather trying work, harrowing to the feelings as well, and requires much firmness of purpose. Much faith also is needed when we see the sparse plants apparently destroyed. We have seen one or two fields of forward well planted Wheat looking a little yellow and sickly under the influence of the cold winds. These fields are in good condition, and the crop should recover its colour with warmer weather. Where, however, there is the same or similar appearance on land of poor character or condition, a dressing of nitrate of soda would be desirable. One hundredweight per acre would cost about 10s., and would pay by the increase of straw alone, now that commodity is so scarce and dear.

The Turnip land is working beautifully. The drying winds and the showers have reduced it to that most desirably mealy condition which we are all aiming at. Everything else is favourable for drilling, but the soil and atmosphere are too cold yet. We must wait for a rise of shade temperature before drilling any great depth of Turnips. The Turnip is hardy, but, like the newly hatched chicken, it needs warmth.

The autumn planted Cabbage look well. They have been horse hoed some time ago, and hand hoeing is just completed. They will need the horse hoe once more and then receive 5cwt of soot per acre. We have tried all manner of manures for Cabbage, and find this the best, especially if there is much ground game to contend with.

Winter Tares are lengthening appreciably, and should be just mowing height by June 1. We shall be very thankful and eager to begin of them, though it will be almost like murder. Fortunately, there is a good breadth, so we can afford to be generous to the live stock, which are all on too short commons at present. Ewes are making a gallant struggle against adversity on the thin seed pastures, but they are in sadly poor condition, which the wool prevents us noticing as much as we ought. We shall wash and clip them at the first favourable opportunity. Wool requires support, and should be taken off immediately when it can be spared. Sheep always thrive better after they are shorn if the weather be at all suitable.

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Journal of Horticulture.

THURSDAY, MAY 22, 1902.

The Season of Blossom.



FRUIT lands and orchards are very beautiful just now with their mantles of pearly white blossoms contrasting vividly with the bright green of bursting growth on every side. Prospects are being freely discussed and though it is not wise to speculate too hopefully on what the crops will be simply from the quantity of bloom on the trees, still there are reasons for being sanguine. To appreciate the flowering season fully, in more ways than one, it is necessary to move about in districts where fruit is extensively grown for commercial purposes. In such places blossoming time brings hopes, and doubts, and fears, and questions are freely asked as to what sort of a fruit year we are going to have. The bloom is primarily essential, but it is not everything, as a killing frost or a scourge of blight may quickly dash the brightest hopes to the ground.

As I write the Plums and Damsons are at the fulness of their floral beauty, and the hill-sides where these fruits are grown in quantity represent masses of snowy whiteness. According to a local theory this should not be a good season for Plums, on account of the heavy crop last year, but if half the blossoms develop into fruit there need be no fear of scarcity. The growers have their doubts just now in two ways. There is no profit in fruitless trees, and they look with anxiety till the flowering time is over and the fruit is set and swelling. On the other hand, they have vivid recollections of recent seasons of glut when the trees were bent to breaking point with the weight of fruit that could not be disposed of at a profit. I do not pretend to account for it here why it should be so, but the fact remains, and though you may call the grower a particular individual who is hard to please, he

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will be content if Nature treats him with a happy medium in the shape of a moderate crop. From appearances now there are reasons why he may venture to expect this, if we may form any judgment by the show of bloom.*

Speaking of beauty in flowering trees, I do not think anything could be more attractive than a Cherry orchard when in full bloom. In Kent there are miles of them, nothing but a mass of pinky white blossoms, set against the delicate shade of the bursting foliage, and presenting a picture that words can only convey a faint impression. If Kent had nothing else to boast of, its Cherry orchards would be sufficient, and in the spring time they are worth travelling many miles to see. That soil and situation are suitable is obvious by the way they flourish, and it must also be said that the growers play their part well. In some of the old orchards there are giant trees with massive stems and mighty limbs. The spread of the latter is extensive, and when every twig represents a spray of blossom, the effect of the whole is perfectly charming. As a rule, the Cherry is a certain bloomer, and almost every spring the floral picture is the same, though the same cannot be said of the results of the blossom. Frost, hailstorms, cold winds, and blight have to be reckoned with, and one or other of these troubles may upset calculations, even when prospects are most fair. Last season was a splendid one for fruit, and crops in all districts were heavy. So plentiful were Cherries, in fact, that there was a glut, and general complaints about low prices, notwithstanding the fact that the county practically holds the monopoly for the production of this fruit.

Simultaneously with the bloom of the Cherries and the Plums we have Pears, which are giving good promise. I question, however, whether Pear culture for profit has been given so much attention as it deserves in the southern county of Kent. A few growers make them a speciality, but for the most part they are mixed with other fruits in orchards and plantations, without occupying a leading position. It is never well to make too sure of Pears from the quantity of bloom. Very often, when the latter is thickly set, it falls off wholesale, and black centres are displayed instead of setting fruits. Good Pear seasons are not the general rule, and it would be useless to prophesy; but, taking the clusters of white blossoms now studding the trees as a guide, prospects are certainly hopeful.

Perhaps of all hardy fruits the outlook for the Apple crop claims the widest attention. Last year it was scanty and spasmodic. In some districts fruit was fairly plentiful, and realised good prices; but in others Apples were mostly conspicuous by their absence. When discussing the bloom of Pears and stone fruits, one cannot say much about the prospects of Apples, as the buds are only swelling, and have yet to develop into flower. The signs, however, are there, and display a good promise of bloom. I have enlarged somewhat on the beauty of the Cherry tree when in flower, and the charms of Apple blossom are also generally admitted. During the flowering time the Kentish orchards are beautiful objects; and if the growers are glad to see it over, and the young fruits where blossoms were, it is only on account of their natural anxiety to secure a crop.

No matter which way we look there is fruit blossom, and everybody is ready to discuss the promise. This important season is only short; just a few weeks, and one after another the flower petals will have fallen to the ground, leaving behind the infant fruit that brings satisfaction and profit, or, as occasionally happens, nothing, which means disappointment and loss.—H.

Cactus Dahlias.

Among the varieties grown for the first time last year not one pleases me more than does J. W. Wilkinson. It is fine as an exhibition bloom, the extra long narrow florets giving it a light and charming appearance. But apart from this, it is good and showy as a garden plant, each bloom opening perfect, and the stem long enough to throw the flower well up out of the foliage. Its colour, deep rosy crimson, is rich and distinct.

Lyric is a richly shaded and handsome flower. Red on a yellow ground describes the colour, and the shape is first-rate. Its florets are of extra length, narrow, and elegantly formed.

* Since this was put into type frosts have occurred and greatly reduced the set of fruits. Cherries are not swelling, while Strawberries have been blackened.

It is free-flowering and constant, and quite distinct in every way.

Lord Roberts.—This is a lovely white, hardly pure, perhaps, but the form is a great advance. Its florets are long, narrow, and prettily formed; the bloom large and perfect. It is free and has a good wiry stem. Up to date this may be termed the finest white Cactus Dahlia.

Vesta is another improvement in its shade of colour—a delicate pink. It has one fault: that is, the blooms are not borne stiffly enough to stand upright, yet the stem is excellent. The flowers are of nice form and size, and the habit of the plant most desirable.

William Treseder in the earlier part of the season is white with lilac tints, but during September it is white. The flowers are first-rate in size and shape. This has also a good stem and a free flowering habit.

Up to Date, a salmon-red too little known. It has long narrow florets and shape of the finest type, a long stem, and excellent in its habit of growth and free flowering qualities. This should be added to all collections.

Galliard is a light scarlet flower of fine size and fair shape; but its short stem does not recommend it. There is room for improvement in this shade, and probably the old Starfish is still the best.

Cornucopia is really fine. It produces huge blooms of a salmon-red shade, and the florets are long and narrow. This is extremely free flowering and showy in the garden, as well as being one of the best for exhibition. Among varieties which have been grown more than one season,

Uncle Tom has proved itself quite the best of the dark blackish maroon shade. It is a striking flower, of the most perfect shape, with a velvety gloss quite its own. To this may be added excellent growth and free flowering qualities, with a stiff, wiry stem. Probably some time will elapse before this variety is in its colour surpassed.

Mrs. J. J. Crowe.—Too much cannot be written of the beauty of this variety. Grown large, it has the appearance of a Japanese Chrysanthemum. The long, narrow florets are splendidly arranged, and the flowers are borne on long stems. Colour, a soft shade of yellow. This is free and showy in the garden.

Mrs. Carter Page, rich, velvety crimson. This is a really fine variety. The blooms have long, narrow florets which form into a most perfect shape. Its flower stem is long, the habit of the plant fine, and it is constant the whole season.

J. F. Hudson, light red, with fainter shades at the base of the florets is a very distinct and beautiful bloom. The shape is desirable, the flowers large, and habit of the plant good.

Mary Service is about the best of the older kinds. The blooms are always good, and it is especially fine in habit, stem, and free flowering qualities. Colour—or, rather, combination of shades—pink and heliotrope.

Britannia.—This may really be chosen with the last named as the only two among older sorts worth growing. The colour is a buff shade, the flowers large, and every one comes perfect in form. It is exceedingly free flowering, and one of the best to throw its blooms out from the foliage.

Countess of Lonsdale is a variety with a very fine habit of growth. In this respect it is a model. The flowers, which are a nice shade of salmon pink, are well formed and striking. It will probably be thought heavy for show purposes, but nevertheless it is a fine type.

Luccico.—This orange yellow flower is notable for its capital size and perfect finish. It has a good stem and the flowers are freely produced. In its shade of colour it must still be classed the best.

Novelties.

The improved Cactus Dahlias were presented in great numbers last season, and in many cases there was a real improvement. Flowers with long and narrow florets are on the increase; but, of course, one cannot form an idea of the habit of growth of these new kinds as they are exhibited. As shown, the yellows, Mrs. A. F. Perkins and Mrs. Edward Mawley are charming. The former is a light shade with white tips, the latter is a nice shade, with florets that tend to incurve towards the centre of the flower. Aunt Chloe is a fine variety of a dark maroon shade. Clara Stredwick, light amber, is most elegant; and another amber tinted kind is Clio. Rufus is a very striking shade of terra-cotta red. The two distinct shades in one bloom as known in the varieties Arachne and The Clown are to be found in such new sorts as Mrs. H. J. Jones, Columbia, and Gabriel. I like the first-named best. Ringdove is exquisite in its delicate shades of buff, white, and pink. Miss Winchester has flowers of a distinct shade of salmon pink. Mrs. Winstanley is a bloom amber crimson in colour. Those named appeared to me the best among about forty novelties. Other kinds worth noting are:—Mrs. H. A. Needs, crimson shade; R. Needham, vivid red; P. W. Tullach, cerise shade; W. F. Balding, amber; Alpha, lilac splashed crimson, not a narrow floret, but the first of a new break of "fancy" combinations in colour; Spitfire, scarlet with buff reverse.—H. S.



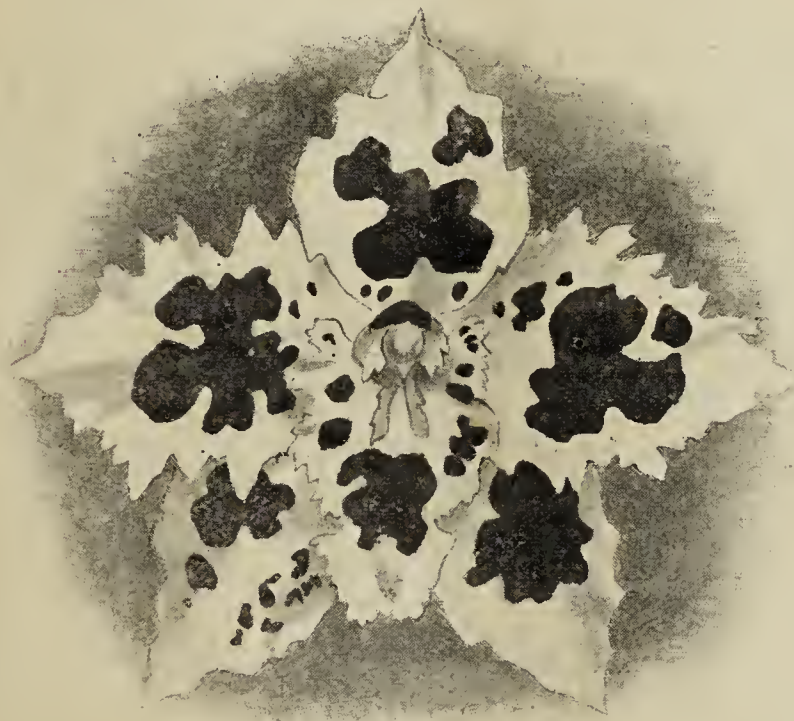
Odontoglossum crispum var. **Robert McVittie.**

At the Drill Hall meeting of the Royal Horticultural Society, held on April 22, a first-class certificate was accorded to this variety, sent by W. Thompson, Esq. (gardener, Mr. Stevens), Walton Grange, Stone. The flowers are large, but not particularly handsome; it is one of the *O. c. apiatum* class. All parts are alike, bearing a very heavy reddish-chocolate blotch, and well balanced in size. The form is good. Our illustration is from a sketch by Mr. Geo. Shayler.

The Week's Cultural Notes.

The Whip Orchid, as *Scuticaria Steeli* is sometimes called, is not one of the most showy, but it is a very interesting species. The long pendant leaves and small flowers clustering at their bases are very grotesque and quaint, while individually the blossoms are very beautiful. This plant delights in a very strong heat and ample light and moisture. A good place to grow it is the back or end wall of an East Indian house, close up to the light, and where it obtains a full share of sun.

Cork blocks, with a little sphagnum about the roots, are better, perhaps, than baskets for it, as there is nothing to obstruct the passage of the leaves. Anything touching the point of these leaves while growing is sure to be productive of mischief, leading



Odontoglossum crispum var. **Robert McVittie.**

to browning of the tips and consequent weakness. The present is a good time to attend to the compost, adding a little new moss where necessary, and in cases where new blocks are needed, allowing those of sufficient size to last the plants for several years. After disturbance at the root, little root moisture is required; but healthy established specimens must be kept very moist while growing.

All the small block plants, too, such as *Trichocentrums*, small tessel-leaved *Oncidiums*, *Sophranitis cernua* and *S. violacea*, *Ionopsids*, and others, should now be seen to, and the roots given fresh material where necessary. A little attention every season, removing any dead stems or sour decayed moss, substituting new for it, and fastening any portion that may have broken loose, is well repaid by the increased health of the plants. All such should be regularly dipped now, as they need watering—not have the water poured on by means of a can, as this often fails to reach all the roots. A thorough submerging drives the air out from the latter, to be replaced by fresh, and also reaches every part of root and compost.

Saccolabiums, *Angraecums* of small stature, *Phalaenopsids*, *Aërides*, and the like, are now growing very freely, and must not be checked in any way. Keep the foliage well sponged and free of insects; attend to any small matters of compost not already done, and remember that a steady progress in a regular temperature is what these delight in. Growth may be rushed along quickly in strong heat, but too often the leaves produced under these circumstances fall off in autumn or winter.—H. R. R.

Insectivorous Plants.

Mr. O'Neill, of Dublin, lately gave a lecture on this subject before the Irish Gardeners' Association. His descriptions throughout were characterised by a tasteful literary and graphic style which quite charmed his audience. After a few introductory remarks, the lecturer proceeded to dilate on the slides showing the Sundew and Butterwort growing in boggy land, and the Sundew with gland, fringed leaf, and the stamens and pistil. With regard to the tentacles on the leaf of Sundew, he said: When set in motion, the tentacles are known to be inflected at an angle of 45deg to 90deg for from two to three minutes. These tentacles exude a sticky substance, and, owing to the insect's body being composed of spiracles or air-breathing pores, the fly soon dies, and is gradually transferred to the centre, where the digestive fluid is secreted, and gradually absorbed. Regarding the sensitive nature of the tentacles, he mentioned that they were by far more sensitive than the nerves of the tip of the tongue, a piece of a hair 1-120th part of an inch having inflected them. Regarding the power of digesting possessed by these plants, a quotation from Charles Darwin's volume is apropos. Three cubes of white translucent extremely tough cartilage were cut from the end of a slightly roasted leg bone of a sheep. These were placed on three leaves borne by poor small plants in my greenhouse during November, and it seemed in the highest degree improbable that so hard a substance would be digested under such unfavourable circumstances; nevertheless, after forty-eight hours, the cubes were largely dissolved and converted into minute spheres surrounded by transparent, very acid fluid. Two of these spheres were completely softened to their centres, whilst the third still contained a very small irregularly shaped core of solid cartilage. Their surfaces were seen under the microscope to be curiously marked by prominent ridges, showing that the cartilage had been unequally corroded by the secretion. I need hardly say that cubes of the same cartilage kept in water for some length of time were not in the least affected. After being fed, the secretion stops and permits the undigested portion being blown away. They sometimes, however, kill themselves by eating too much. On being given glass and chemical substances (phosphate of ammonia, one-twentieth millionth part caused inflection), to test inflection it was found that although they responded, they soon released their grasp, thus showing a power of discrimination.

In mentioning that the gland of *Drosera* was filled with a purple fluid, which enables it to secrete an acid and a ferment, the lecturer said proof of this was found in the fact that the purple changed into a specked, or mottled hue, showing the absorption of protoplasm of the fly into a soluble form, and the reason of devouring same to be the acquisition of nitrogen. The varieties of *Drosera*, are the round-leaved great Sundew and long-leaved Sundew, which, according to an authority, look like crowds of pearls scattered over a fairy carpet of rubies. The next slide showed *Drosera capensis*, a native of South Africa, capturing insects. The roots of these plants are very delicate, and in fact suckers, so as to enable it to get sufficient moisture to enable it to keep up the supply of gummy secretion.

Venus's Fly Trap.

Venus's Fly Trap (*Dionaea muscipula*), which was next dealt with, is a native of a narrow strip of country in the east of North America, from Long Island to Florida, and generally grows in the vicinity of peat bogs. The leaves lie on the ground, and the end of the leaf is divided into two parts and hinged, while along the edges are from twelve to twenty teeth. These do not carry glands, but in the centre are three erect spines which are extremely sensitive. Describing the leaves of Venus's Fly Trap, Mr. O'Neill said they were a little concave, the teeth interlock, and so the prey was killed by crushing. Cheese did not agree with the leaves, and killed them. The teeth overlapped, and so there was no fear of smashing them. In a lecture given by Dr. Burdon Sanderson many years ago, referring to this plant he says: "When we call this process digestion, we have a definite meaning—we mean that it is of the same nature as that by which we ourselves, and the higher animals in general, convert the food they have swallowed into a form and condition suitable to be absorbed, and thus available for the maintenance of bodily life. We will compare the digestion of *Dionaea* with that which in man and animals we call digestion proper, the process by which the nitrogenous constituents of food are rendered fit for absorption. This takes place in the stomach. It also is a fermentation—namely, a chemical change effected by the agency of a leaven or ferment which is contained in the stomach juice, and can be, like the ferment of saliva, easily separated and prepared. As so separated it is called pepsin; consequently, having the ferment, we can easily imitate digestion out of the body. For this experiment there are three things necessary: (1) That our liquid should contain pepsin; (2) that it should be slightly acid; (3) that it should be kept at the temperature of incubation, about 97deg F. We select for the experiment a substance which, although nutritious and containing nitrogen, is not easily digested, such, for example, as boiled white of egg in water containing a small percentage of hydrochloric acid and a trace of

pepsin. It is gradually dissolved, but chemical examination of the liquid shows us that it has not been destroyed, but merely transformed into a new substance called peptone, which is afterwards absorbed—namely, taken into the circulating blood. Between this process and the digestion of the leaf of the Venus's Fly Tray, the resemblance is complete. It digests exactly the same substance in exactly the same way—namely, it digests the albuminous constituents of the bodies of animals, just as we digest them. In both instances it is essential that the body to be digested should be steeped in a liquid which in the Venus's Fly Trap is secreted by the red glands on the upper surface of the leaf. In the other case by the glands of the mucous membrane. In both the act of secretion is excited by the presence of the substance to be digested. In the leaf, just as in the stomach, the secretion is not poured out unless there is something nutritious in it for it to act upon, and, finally, in both cases the secretion is acid. As regards the stomach we know what the acid is—it is hydrochloric acid. As regards the leaf, we do not know precisely as yet."

Drosophyllum and Sarracenias.

The *Drosophyllum*, or fly-catcher of Portugal, was referred to next. This plant the natives of Oporto are accustomed to use instead of lime twigs to capture flies. An illustration of a section of a stem showed that the glands secrete a gummy matter, and fall on to more minute glands and digest the insect. Among the types of Pitcher Plants mentioned, the lecturer referred to one of Borneo which is large enough to capture a small bird, *Nepenthes Rajah*, while an ordinary pigeon would be hidden in it.

Sarracenia, he said, was a native of Eastern North America, from Hudson Bay to Florida. The leaves rest on damp earth, and are formed into pitchers. In these pitchers the surface of the lid is rendered attractive by honey glands, which also appear on the interior and gradually fall down. There are bristles at the end, and, according to Dr. Millichamp, the fluid secreted has a narcotic effect. An American insect, a moth, spins a web across its tissue, and devours the nectar glands. The moth has long spurs upon its second leg joints, which cross the hairs and so keep it out of danger. The power of digesting has not been found here, but it is conjectured that the insects are macerated and indirectly support the plant. Views were then thrown on the screen showing sections of the hair found in pitchers of this class, and the attractive surface of the lid.

Nepenthes.

Mention was here made of *Nepenthes Mastersiana*, one of the best of the hybrids. The lid of this plant is furnished with honey glands, and the pitcher is a prolongation of the midrib, with honey nectaries also on the rim of the lid. In showing a section of this, Mr. O'Neill said it secretes a fluid, and, according to the memorable paper of Sir Joseph Hooker to the British Association in 1874, the fluid secreted contains pepsin; and when animal food enters, an acid is formed which dissolves the meat. Dr. Lawson Tait separated, many years ago, a deliquescent substance which he gave the name of Azerin, possessing antiseptic and wetting powers. The midrib is composed of honey cells which lure the unwary insect. To quote from Mr. Wallace, the veteran Darwinian, in his book on "The Malay Archipelago": "We had been told we should find water at Padangbatu, but we looked about for it in vain, as we were exceedingly thirsty. At last we turned to the Pitcher Plants, but the water contained in the pitchers (about half a pint in each) was full of insects, and otherwise uninviting. On tasting it, however, we found it very palatable, though rather warm, and we all quenched our thirst from these natural jugs." And again, when at Borneo, the same traveller writes: "The wonderful Pitcher Plants, forming the genus *Nepenthes* of botanists, here reach their greatest development. Every mountain top abounds with them, running along the ground, or climbing over shrubs and stunted trees, their elegant pitchers hanging in every direction. Some of these are long and slender, resembling in form the beautiful Philippine lace sponge, which has now become so common; others are broad and short, their colours are green, variously tinted, and muffled with red or purple. The finest yet known were obtained on the summit of Kini-balou, in the north-west of Borneo. One of the broad sort will hold two quarts of water in its pitcher; another has a narrow pitcher 20in long, while the plant itself grows to the length of 20ft."

Mention having been made of *Nepenthes bicalcurata*, with its downward prickles, to prevent a little lemur (the *Tarsius*) from robbing the pitcher, and *Nepenthes Chelsoni*, a garden hybrid, the lecturer, in speaking of *Darlingtonia*, a native of California, said Irish gardeners would remember with pride the manner in which Mr. Bracken cultivated those plants in the gardens of Sir Hudson Kinahan at Clonskeagh. The plant was introduced by Torrey in 1855, and why it forms a helmet covering may be partially explained by the absence of honey glands in abundance, as its gaily covered head generally courts insects to their death. Although no digestive fluid has been detected, it is presumed like the *Sarracenias* to use the macerated insects in an indirect way. Like the *Sarracenia*, the water contained in the plant becomes like manure water.

Cephalotus follicularis.

Cephalotus follicularis is a native plant of the moorlands in Eastern Australia, and is doubly interesting, because it produces leaves and pitchers in varying stages. The lip has an edging of teeth projecting downwards, with honey glands, &c. A cross section of this pitcher shows a ledge with its sharpest edge downwards. This is called the conducting sheaf, the walls being now smooth. The glands which secrete a fluid have the power of dissolving insects. To quote Dr. Tait: "In two pitchers I found insects bathed in fluid, with a strongly acid reaction, and this fluid digested shreds of albumen exactly as I found the fluid of *Nepenthes* pitchers did. I conclude, therefore, that a true digestion of its victims is carried on by the *Cephalotus* pitchers." Mr. O'Neill then went to deal with the Butterwort, the leaves of which, he said, are filled with small glands, and secrete a juice similar to the gastric juice of animals. The main components of this gastric juice are two—an acid and a ferment, similar to pepsin—and not only do they dissolve the soluble part of the prey, but solvent discharged by the glands themselves. The remarkable similarity existing between the animal stomach and the leaves of the Butterwort has been turned to practical account by some farmers. If fresh milk is poured over the leaves a tough mass is formed, called the *Tatniolk* of the Laplanders, and, according to Linnæus, the father of modern classification in botany, a favourite dish in Northern Scandinavia, whilst we are all perfectly aware that the shepherds of the Alps use the leaves as a remedy for sores on the udder of cows.

Growing for Exhibition: Peaches and Nectarines.

In a recent issue of the *Journal of Horticulture* (page 357), I dealt with several points connected with the culture of these important fruits. My present notes I will devote principally to the consideration of watering and feeding, and I doubt not that many growers will agree with me when I state that the character of the fruit grown depends upon the way in which these two points of culture are attended to, more than upon anything else. Take, for instance, two equally healthy trees of the same variety growing side by side. Attend to each in the same way in regard to disbudding, stopping, and tying, and leave the same number of fruit per square yard on each; then, by giving one tree special attention in regard to watering and feeding, and the other what may be termed ordinary treatment, the weight of fruit produced in the former case will frequently be almost double that in the latter. The amount of water which may with advantage be given to trees varies considerably, and is regulated by the texture of the soil, its condition in regard to drainage, and by the condition of the weather each season. When the soil of a border is porous, and good drainage has been provided, I have known trees during the active growing season to need watering every two or three weeks; but when the soil is stiff, and no special attention is paid to drainage, not more than two waterings can be safely given during one season, and yet I have grown fine fruit under each of the two sets of conditions described. The great point is to see that water is required before giving it, and then to apply it copiously. In some instances the surface of a border will tell the practised hand when to water; in others it is necessary to test the soil to a considerable depth by means of a pointed stick or one of the specially advertised "testers."

When the borders receive their winter dressing, the exact condition of the soil in regard to moisture is easily ascertained. I am a great believer in the efficacy of steamed bone flour as a winter dressing for Peach trees. After the surface soil has been removed add a layer of it at the rate of 6oz per yard, then cover with an inch or two of fresh loam, with which a little lime has been mixed. Tread firmly, then loosen the surface slightly with a rake, and after a few days top-dress with fresh horse manure which has been turned a few times. No other feeding will then be necessary till after the fruit has been set and thinned. I always like to water as soon as possible after the fruit is set, provided the soil is in the right condition, as the ultimate size the fruit is to attain is regulated to some extent by the foundation, or "framework laid" while they are making their first swelling, and a moist yet sweet condition of the soil favours swelling to the fullest extent. After the first stoning is completed, and as soon as the fruit begins to swell again, a liberal application of liquid manure should be given, and from that time onward, till they are almost ripe, liquid or artificial manure,

or both, should be given at each watering, as all stone fruits swell very quickly during the three distinct periods that they increase in size, the last stage being from the time they begin to show the first tinge of colour until they are fully ripe.

There are several excellent manures advertised in the *Journal of Horticulture* which are of great value in growing Peaches and Nectarines, as well as other fruits. They are easily applied by being scattered on the border, or by mixing with the water given; the former is the simplest way, and I find it quite as effectual as the latter. Sulphate of potash and sulphate of ammonia, if mixed in equal proportions, and applied at the rate of 2oz per square yard, forms a splendid manure for stone fruits when bonemeal has been applied early in the season, and if the mixture is applied just as the fruit begins to colour, it will help to give that high finish which exhibitors always like to secure.

The manner in which the fruits are exposed to light also, of course, has a marked effect on their colour. They ought to be fully exposed to light some weeks before colouring commences, because if some parts of a fruit are partially shaded with leaves when colouring begins, no amount of

tolerated. The characters, however, are numerous, and were fully detailed in our issue of May 1, page 378, which we trust those who are interested in the Auricula will have kept for reference. And the cut on this page will serve as a finishing illustration after the description.

Apple Scab Fungus.

Writing from Ngelani Mission, Machakos (via Mombasa), British East Africa, a correspondent says:—"In the industrial department of our Mission we have been planting large quantities of Apple trees, and have experienced great trouble with pests, which we do not understand, and for which we can see no remedy. During the year 1901 we carefully scrutinised every number of your valued *Journal*, but never saw any of our pests referred to. We have also got your "Garden Manual," "Profitable Fruit Growing," and "Fruit Growing for Profit," but we have looked through them in vain for help on this, to us, vital question. On twenty acres of land we have planted about twelve leading kinds of table and cooking Apples. They are all terribly destroyed with the following:—

"CRACKING.—Perhaps the one-half of all the Apples that form commence cracking when about the size of Walnuts, and these, if allowed to remain on the trees, become absolutely useless.

"BLACK SPOT.—This destroys more than one-half of those left uncracked. It comes upon the Apples when they are pretty well grown, and when the Apple is cut it is found to be very scabby looking, full of brownish spots all over. The next evil in importance is pinhole-like boring. The Apples all covered with pinholes in the skin, and when cut open are discoloured and spongy. Our Plums also get these pinholes. We have also what might be termed brown rot. We would be grateful to hear from you what remedies we could apply, and at what intervals or stages, which would prevent such wholesale destruction of our fruit.—S. W."

According to your description, we consider the cracking and spotting to be due to one cause, that of the Apple scab fungus, *Fusicladium dendriticum*, which is the most injurious of fungus parasites infesting the Apple, in many instances rendering the fruit unsaleable, if not unuseable, half or more, sometimes the whole, of the entire crop.

It attacks the young leaves and shoots as well as the fruit. The mycelium or vegetative portion of the scab fungus consists of brownish cells, which develop just beneath the skin of the leaf or fruit, but as a rule does not penetrate deeply into the tissues. After the fungus has grown in this way for some time it pushes outwards, rupturing the skin, and on the exposed surface short brown vertical threads are developed, on the top of which the small oval spores are produced. When mature, the spores separate, and are scattered by wind and rain in all directions. One effect is to harden the skin, and the fruit cracks in consequence through the swelling or growth from within. The following treatment has been found most successful in combating the disease:—Spray with Bordeaux mixture, first, just as the flower buds begin to open; second, when the petals of the flowers are falling; and, third, when the fruit is the size of peas or slightly larger. If the season be rainy a fourth treatment should be given a fortnight after the third. Two ounces of Paris green added to each thirty-two gallons of the mixture at the time of the third spraying will hold the codlin moth in check. The Paris green should either be in or made into a paste by adding a little water. This paste readily unites with the mixture, and does not decrease its value in any way, but enhances its usefulness as a destroyer of caterpillars.

As ordinary Bordeaux mixture is apt to scorch the foliage, especially when young, it is advisable to use a dilute form, namely, 1oz of copper sulphate and 1oz of quicklime to each gallon of water, or 2lb of copper sulphate and 2lb of quicklime to thirty-two gallons of water. With the Paris green added to it, it is made a combined insecticide and fungicide. The pinhole-like boring in the skin of the Apples is probably caused by the Apple maggot, or larva of *Trypeta pomonella*, a two-winged fly, that appears early in summer and deposits eggs in the partially grown Apples, and the maggots burrow in the flesh in all directions, discolouring the flesh and rendering it spongy and tasteless. This pest is difficult to deal with, as it cannot be destroyed by spraying. It is probable that a dressing of kainit, 7lb per rod, or 10cwt per acre, applied to the soil would destroy the pupæ, which lie in the ground about an inch beneath the surface, applying it as soon as the fruit is gathered, or at the end of summer, leaving on the surface, as the rains will wash it in fast enough. All fallen fruit should be destroyed, especially that falling some time before the crop matures. For the pinholes in Plums and the brown rot we advise spraying with the combined fungicide and insecticide as advised for Apples, but commencing and following on with the combined articles. All mummified fruit should be collected and burned, whether on the trees or fallen on the ground.



The Florists' Type of an Alpine Auricula.

after exposure will put matters right, but such fruit will always be comparatively pale on the parts not fully exposed early. When trees are grown on a trellis beneath the roof, an excellent method of exposing the fruits is to fix a stick beneath the shoot carrying a fruit, letting the stick rest on the wire, or other trellis, beneath. This will, of course, raise the fruit slightly. Sometimes it is necessary to tie the cross sticks to the trellis. The same system may be practised on trees growing on a wall, and in many instances it is also necessary to tie back some of the leaves, or even to remove a few entirely. All these operations, however, must be performed early, in order to secure highly and evenly coloured fruits.—H. D.

Florists' Type of an Alpine Auricula.

So much interest has been displayed among growers of Auriculas during the present season on the points of perfection required by the strict fancier's standard, and so many inquiries have been made as to what constitutes a perfect (?) flower, that we have had an illustration prepared by means of which certain features are emphasised. Thus the corolla is seen to be smooth, even, and the zones in absolutely regular circles. The colours should be distinct and good, and no running or merging is

NOTES

NOTICES

Appointment.

Mr. W. Manning, horticultural instructor under the Devon County Council, has accepted a like appointment under the Hereford County Council.

Royal Horticultural Society.

At a general meeting of the Royal Horticultural, held on Tuesday, May 20, sixty-eight new Fellows were elected, amongst them being Lady Settrington, Lady Trevor, Lady Stirling Maxwell, Lady Ryder, Sir Albert Rollit, M.P., Sir John Stirling Maxwell, Bart., Lt.-Col. W. H. Wheeley, J.P., D.L., and C. Gilbert Wood, F.R.G.S., making a total of 588 elected since the beginning of the present year.

Australian Apples for California.

The "Australian Cultivist" of Melbourne, Australia, says in its issue of February 14: "The Somerville Horticultural and Fruit Growers' Association, on the recommendation of Mr. George Griffith, the well-known orchardist and nurseryman of Two Bays, intends forwarding 100 cases of Apples to San Francisco for the purpose of testing Californian market. Mr. Griffith has received advices from San Francisco stating that a market exists there for Australian Apples."

National Auricula Society, Midland Section.

We are apprised by the secretary, Mr. R. Holding, 121, St. Paul's Road, Balsall Heath, Birmingham, that the photograph of the judges, exhibitors, and friends recently taken at the show of the society, is now ready, and may be had on application to the hon. secretary. This photographic group contains the Rev. F. D. Horner, with Messrs. Ben Simonite, T. Lord, R. Gorton, J. W. Bentley, A. R. Brown, W. B. Lathom, R. Dean, John Pope, and a host of horticultural men of note.

Manor House Gardens, Lee

On Whit Monday Mr. John Piggott, Chairman of the Parks and Open Spaces Committee of the London County Council, dedicated another open space, Manor House Gardens, Lee, Surrey, to "the use and enjoyment of the people of London for ever." The manor of Lee was in the hands of the Crown from the time of Henry VIII. until Charles I., who disposed of it to Ralph Freeman, afterwards Lord Mayor of London, with whose descendants it remained until 1798, when Lord Sondes sold it to Sir Francis Baring, Bart., in whose family it has since remained. The Manor House, the remains of which overlook the Gardens, was built about 1770. Its kitchen gardens and orchard and fruit gardens at one time supplied fruit for St. James' Palace.

Devon Gardeners' Annual Summer Outing.

The committee have pleasure in announcing that they have arranged an excursion for Wednesday, July 16, 1902, which they hope will be as pleasant and profitable as any of its predecessors. The party will meet at St. David's Station, and proceed by the 8.40 train to Totnes, arriving there at ten o'clock. After seeing the castle and other interesting parts of the town, a special steamer, chartered for our own party alone, will leave at 11.45 o'clock, and steam slowly down the beautiful river Dart (the English Rhine) to the private pier of Greenway, the seat of T. B. Bolitho, Esq., who has generously granted us permission to inspect his beautiful grounds and gardens, which are close to the river. At 2.15 we shall re-embark and steam on to Kingswear, when a quarter of an hour's walk will bring us to Brookhill, the seat of R. F. Wilkins, Esq., who has kindly given us permission to inspect his fine gardens and grounds. At 4.15 o'clock we cross the river to Dartmouth, where, at 4.30 an excellent meat tea will be provided by Mr. Dawe, at the Criterion Restaurant. After tea the many interesting places in the ancient town will be visited. We leave Dartmouth at 8.10, and arrive at St. David's at 10 o'clock. Tickets must be taken not later than Friday, July 11. Fare, covering meat tea, all pier dues, &c., members, 7s. 6d., non-members, 10s.—ANDREW HOPE, Hon. Secretary, 38, Prospect Park, Exeter.

The Gardeners' Royal Benevolent Institution.

This institution will hold its sixty-third annual festival dinner on May 28 next, at the Whitehall Rooms, Hotel Métropole, at 7.30 p.m., when the Duke of Marlborough will preside, and be supported by influential gentlemen, including Mr. Winston Churchill, M.P.

Corrections.

The entire acreage of Hallingbury estate amounts to 10,000 acres, whereas we stated 4,000 acres on page 430 last week. In the report of Edinburgh show (page 436), Rhododendron James Whittton, which received a F.C.C., was wrongly named James Whittier. C. W. Cowan, Esq., of Valleyfield, set up a varied collection of the rarer Narcissi.

Edinburgh and Midlothian Coronation Fete and Floral Gala.

The organising secretary, Mr. A. T. Hutchinson, 7 No., St. Andrew Street, Edinburgh, writes as follows:—"I have pleasure in enclosing you a schedule for our Grand Coronation Fete and Gala. I have done my utmost to produce what I may term an attractive programme for Coronation week. I make no apology to horticulturists, as you will see at a glance that the writer of this schedule has more imagination than knowledge of the floral gifts of nature. At the same time I am alive to the fact that no out-door show can be made attractive without flowers. I am a firm believer in flowers everywhere." We will have something to say of the schedule in our next issue, and meanwhile commend our readers to read the advertisement on page ii.

Temple Flower Show, May 28th, 29th, and 30th.

The fifteenth Great Flower Show of the Royal Horticultural Society, held annually in the Inner Temple Gardens, Thames Embankment, will open on Wednesday, May 28, at 12.30. Judging from the large number of entries received, the Temple Show promises to be quite up to its usual standard of excellence. The following well known amateurs are among the names of intending exhibitors:—Lord Aldenham, vegetables; Sir Frederick Wigan, Bart., Orchids; Sir Trevor Lawrence, Bart., Orchids; Hon. A. H. T. Montmorency, Tulips; Capt. G. L. Holford, C.I.E., Amaryllis; Leopold de Rothschild, Carnations; Pantia Ralli, Caladiums and fruit; Alex Henderson, M.P., fruit; Reginald Farrer, Alpines; John Rutherford, M.P., Orchids; J. Colman, Orchids; A. Meyers, Calceolarias.

Darwin Tulips at Petersfield.

"I am sending you a few Darwin Tulips, one of which is a very prolific one, bearing four blooms. I have never before seen one bearing so many. A friend of mine photographed it, so if it comes out well I will send you one. The Darwin Tulips and the late flowering kinds, such as the Gesneriana varieties, retroflexa, macrospeila, and many others, are most useful, as they come in at a time when spring flowers are on the wane.—H. SILCOCK."

[The gardens of Adhurst St. Mary can evidently grow choice Tulips and Narcissi. We never have seen finer blooms than those sent, and trust that the photograph of a four-flowered Tulip may be such as can be reproduced.—ED.]

Vegetables and the Royal Horticultural Society.

Believing that high-class garden vegetables have fully as much value in garden economy as have ornamental plants, flowers, fruits, and Orchids, which the Royal Horticultural Society specially favour at their meeting, and realising that, to every gardener, vegetables are of the highest importance, it is our desire to secure from the Council of the above named Society some complete recognition of the value of vegetables. To that end we wish to see one meeting of the year at the Drill Hall (say the first one in July or in October alternately) annually devoted to a great exhibition of vegetables. We beg of you kindly to insert this communication in your columns, that we may through much publicity be enabled to learn from your many readers interested in vegetable culture their views on this subject. If they favour our suggestion, we shall be greatly obliged if each one will kindly intimate such by sending their names to one or the other of us on a post card at once, that these may be appended to a memorial to the Council, asking for such vegetable exhibition as is desired.—(Signed) EDWIN BECKETT, The Gardens, Aldenham House, Elstree; ALEXANDER DEAN, 62, Richmond Road, Kingston-on-Thames.

Primula sinensis, The Duchess.

So seldom do the Floral Committee of the Royal Horticultural Society bestow an Award of Merit on a variety of a florist's flower of a class such as this belongs to, that when *Primula sinensis* The Duchess received the distinction, a short while ago, the plant became an immediate object of interest, and none seeing it could fail to admire. This is undoubtedly the loveliest variety of the Chinese *Primula* at present offered to the growers. The eye is golden-yellow, round which there is a pretty zone of rosy-carmine, the outer parts of the corolla being a silvery peach-line bordering on to pale lilac, and the edges of the segments are fringed. The flowers are large, splendidly formed, and of great substance. The truss is well held up above the foliage. Our illustration on this page shows the characteristics of the plant.

Old Time Gardening.

(Continued from page 160.)

We enter now upon a period which, thanks to the novel art of printing, becomes by degrees less and less involved in obscurity, and gardening, emerging out of its state of semi-torpidity, advances, at first slowly, but nevertheless surely, towards the proportions it has assumed in the present day.

The last instalment of the subject to some extent overlapped the stage from which I now design to start, but it was necessary to do so in order to clear the way, and indeed it would be somewhat cumbersome to be exactly correct as to the progression of dates. In this respect I shall, I fear, transgress again immediately. Henry VIII. sent a very learned man, Mr. Leland, on a mission through the several counties of England to report on anything that struck him as worth noting, and though gardening does not occupy much of the seven volumes which were printed from his manuscript, there is

sufficient to show horticulture to have been in a flourishing condition in 1533, when he began to itinerate England. In fact, the impression conveyed by a perusal of Leland's multifarious notes is that gardens were so common as to call for no special comment.

Henry VIII. and Leland.

An impression of this nature is certainly formed in a case like the following. Describing Morle, in Derbyshire, he remarks of the gardens:—"Ther is much Pleasur of Orchardes of great varietie of Frute and fair made Walks and Gardens as ther is in any place in Lancastreshire." From which one might reasonably expect to discover something definite concerning gardening in the latter county. But not one garden is even mentioned. The description in which the greatest interest centres is that of Wresil, or Wresehel, one of the seven castles belonging to the wealthy and powerful Earl of Northumberland. This castle, in our antiquary's opinion, was of no great age, the stones having a new appearance. It was "moted about in three parts," and then he goes on to say:—"The Garde Robe in the Castelle was exceeding fair, and so wer the gardenis withyn the Mote, and the Orchardes without. And yn the Orchardes wer mountes opere topiaris writen about with Degrees like Turnings of Cokilshillis to come to the top without Payn." There was also a banqueting house in this orchard, which, by the way, seems to have formed part of an extensive park. Comparing the above with certain entries in the "Northumberland Household Book," written at this same Wresil, from 1512 onwards, a very clear idea may be gained of the state of gardening as practised on a nobleman's estate when Henry VIII. began to reign.

The household was composed of 166 persons, and among the numerous servants who bulk so largely in this household was one "gardener for setting of herbes, clipping of knots, and sweepynge the garden cleane." The fact that only one man is mentioned has been held to prove the low condition of gardening at this period, but it is plain that his duties were confined to the gardens "withyn the Mote." He, as we have seen, formed part of the household, with whom he was lodged and fed in the castle, his wages being those of a groom at 20s. a year.

Another entry in the "Household Book" projects some light on another phase of gardening—that of purchasing and selling. "From henceforth there be no herbes bought, seeing that the cooks may have inewe (enough) in my lord's garden." This would lead one to expect market gardens to have been distributed over the country; but it was customary to dispose of surplus produce from private gardens, and not unlikely less princely establishments would help to provide "my lord's" cooks with vegetables when home resources failed. In the case of the Bishop of Ely's garden, when it was let in this century, the Bishop reserved the right to cut a great quantity of Roses, and not improbably these possessed a marketable value.

A condensed description of the garden and orchards at Thornbury, which extended to four acres, will further help to convey a good idea of gardening at this period. Exactly as at Wresil, there was, on the east side of the castle, a garden to walk in, closed with high walls, embattled. Besides this "privy" garden was a "large and a goodly Orchard, full of young graffes well loaden with fruit, many Roses, and other pleasures," with many alleys to walk in "openly." A raised walk extended all round the orchard, with resting places covered thoroughly with Whitethorn and Hazel. The whole was enclosed with "sawin pale, and without that, ditches and quickset hedges." These were pierced by posterns leading into a goodly park. About a hundred years later Lawson's description of an orchard coincides in a remarkably exact manner with the above and the orchard at Wresil—vegetables, flowers, and fruits having been cultivated together, and it too possessed its walks, seats, mounts, &c. The general impression left on one's mind is that the orchard combined in itself a vegetable garden, a garden of the hardest fruits—there could be no wall fruit—and a pleasure garden with its raised walks and pleasant seats, its alleys bordered by common flowers, and its raised mounts sometimes, as we have seen it happened at Wresil, laboriously adorned with clipped vegetation. These were country gardens, and by a reference to Lawson later on, it will be seen that this style of garden existed for a very long time.

Foundation of Hampton Court.

Hampton Court dates from this period, the Palace having been commenced by Wolsey in 1520, and the gardens were laid out in knots with alleys and arbours all closely secluded by stone walls. In 1533 Henry VIII. remade the gardens, and introduced a number of "beestes in freestone" and "stone bests," and "sixteen of the Kynges and Queenys beestes in tymber standing about the mounte in the Kynges new garden." "A boulder of Rosemary three years old was set about this mount." Rosemary, it may here be interpolated, was always planted "three years old," at which age it had become somewhat woody, and able to withstand frost. The gardens were



Primula sinensis, The Duchess.

Reduced one-half.

railed, the length so enclosed being 960 yards. For furnishing the garden there was purchased "200 young treys of Oake and Elme, Appul trees and Pere trees, five Servy trees, four Holly trees, quyksettes of Woodbyne and Thorne"—for hedges or arbours—"treys of Yow. Sypers, Genaper, and Bayes at 2d. the piece, 600 Cherry trees at 6d. the 100, 200 Rose at 4d. the 100, Violettes, Primroses, Gitliver slips, Mynts, and other sweet floures, Swete Williams at 3d. the bushel." The "Sypers," it may be noted, is *Cupressus sempervirens*, which was set in knots and trimmed annually, Junipers were employed in forming arbours, and "Bayes" is *Laurus nobilis*. Cherries and Roses would be utilised in hedges. The mount swallowed up 250,000 bricks in its construction, and 12,000 plants were required to form the quickset hedge by which it was enclosed.

Henry laid out another famous garden a few years later, that of Nonsuch. A description in Latin of these gardens was published in 1598 by the German traveller Hantzner, and full details occur in a parliamentary survey made in 1650. The kitchen garden was very commodious, and enclosed by a 14ft wall. It contained seventy-two fruit trees and one Lime tree. Adjoining was a fruit garden, also walled, and with the walls covered with Rosemary. There were groves ornamented with trelliswork, cabinets of verdure, walks embowered with trees, many columns and pyramids of marble, and two fountains. Lilac trees, "which bear no fruit but only a very pleasant smell," are noted. In the privy gardens 144 fruit trees were included with others. Numbers of alleys cut and divided up the space, and Thorn hedges were employed to divide off compartments and "rounds." Theobalds (Lord Burleigh) dates from 1560. The marvellous thing about this garden was its having been surrounded by water, "so that any one in a boat may wander among the fruit plantations with great pleasure." The gardens contained many trees and shrubs, labyrinths, and much marble work. It also contained a splendid garden house, with a banquetting room. These gardens were greatly altered in the succeeding century, after coming into the possession of James I., who inherited it from Elizabeth.

London Gardens.

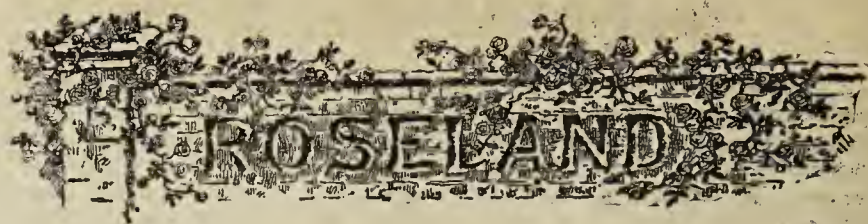
From Stowe we are able to gather a little concerning London gardens at this period, as, for instance, in Broad Street Ward there were divers great gardens. Concerning Houndsditch we have this pleasant picture, succeeding one not quite so pleasant. "Towards the street," he says, "were some small cottages, two stories high, and little garden plots backward." By-and-by these disappeared, and the rest of the field was made into a market garden "by Cawsway," and "in the last year of Edward VI. the same was parcelled into gardens." About this time, too, a great fruit growing establishment was instituted in Kent by "one Richard Hanis, of London, fruiterer to King Henry VIII." His nursery was at Tenham, and having imported, or "fetched," Cherry, Pear, and Apple "graftes," that is, grafted trees, out of the Low Countries, he stocked seventy-seven acres with them, and from this centre many other orchards were stocked with "rare fruit and lasting fine fruit," such as hitherto had not been known.

Dr. Wm. Turner and others.

The Dutch and French at this period, and earlier, imported young trees as well as fruit, for which they seem to have found a ready sale. During this period also the earliest physic or botanic garden was formed by Dr. William Turner. Turner was born at Morpeth, and seems to have been something of an ecclesiastic as well as a physician. He entertained certain opinions repugnant to King Hal, and found it convenient to retire to the Continent, where he became acquainted with Conrad Gesner at Zurich. Returning to England after the death of Henry, the Protector Somerset secured his services as physician, and Turner seems to have taken the opportunity to form a garden of "physical" plants at Sion, at that time in course of reconstruction. Afterwards he retired to Wells, and established a garden of his own there. Turner was a prolific writer, and composed several works on botanical subjects, the "Herball," which "came out" in two parts, the one in London, 1551, the other at Cologne, 1562, and the work as a whole in 1568, being that by which he is best known. Previous to this Boode, in 1540, in "The Boke for to lerne a man to be Wyse, &c.," just touched on gardening. Sir A. Fitzherbert, in his "Book of Husbandrie," and Arnold, 1502 (London, 1812), each treat shortly on the subject; but the time of books had hardly yet arrived, though we cannot escape feeling that works of foreign and classic authors would be well known.—B.

Bee Lecture at Shirley, Southampton.

Mr. J. Miles, secretary of the Shirley Gardeners' Society, recently gave a highly appreciated lecture on Modern Bee-keeping, of which we hope to furnish a brief report in a coming issue.



Notes on Roses.

For flowering in pots in the greenhouse, with but a little forcing, so as to have the plants in flower in April and early in May, it is difficult to find a more charming variety than Madame Plantier. The blossoms are borne in clusters of from five to seven, and are of the purest white and deliciously scented. The foliage, too, is dense green in colour, which enhances the purity of the blooms.

Plants growing in 6-inch pots and flowered profusely are charming ornaments for the dwelling-house, as they are for the greenhouse. Growing in the open, it is difficult to get a Rose more profuse in flowering than this Hybrid China variety. The only fault that can be advanced against it is that it is not a perpetual flowering variety.

Liberty is another Rose that those who require neat buds in quantity in April should not fail to obtain. In colour it is a brilliant crimson, with exquisitely formed buds, just the right shape for buttonhole bouquets. Under glass it promises to be one of the finest varieties we have for cutting; but whether it will succeed as well out of doors is a moot point. [It does admirably for autumn cutting.—Ed.]

White Maréchal Niel, although not absolutely a pure white Rose, is a near approach to it. The petals betray a slight touch of cream. On the whole, though, it is a charming variety for growing in quantity under glass, needing just the same treatment as its yellow prototype, which, when well grown, is still the finest yellow Rose we have.

The Bride is a Rose that rosarians should pay attention to where handsome blooms are required in April. The flowers are particularly shapely, and with just a tinge of cream that renders the variety especially interesting.

Comtesse de Serenye is one of the finest H.P. Roses we have for growing in pots where flowers pink in colour are required. The blooms are especially shapely and with a perfume quite its own.

Lamarque is a Rose not cultivated nearly as much as its merits deserve. Grown under glass, to produce blooms of the purest white, when in a half expanded state, this Rose has no equal for quantity, extending over a number of years.

No Rose that I know succeeds better upon its own roots than this, a plant growing in a warm greenhouse here, which I raised from a cutting eighteen years since. It gives annually shoals of blossoms in clusters of as many as six in a bunch. Grown out of doors the flowers have more cream in them than when expanding under glass. The constitution is vigorous in character, ample space being required to see the plant in its full beauty.

Pruning.

The pruning of indoor varieties of climbing Roses, such as Maréchal Niel, is the one point of importance in their success or otherwise. Immediately the last blooms are removed prune all the growth down to within an eye or two of the base. By the severity of the pruning, the base eyes annually left are induced to push forth vigorously into growth, making shoots the same season from 10ft to 15ft long. These, if trained thinly under the roof, and the plants kept in a healthy growing state, free from mildew, mature thoroughly, and from almost every node the season following sturdy shoots push, each one producing a bloom, many two and three.

Mildew

At this season of the year is a bane to Rose-growers under glass, especially when attempting to cultivate a mixed collection of plants in the same house, some requiring diverse treatment, as, for instance, Roses of the Maréchal Niel type and Malmaison Carnations cannot succeed in the same house. While the latter will revel in abundance of air, the Roses will be infested with mildew. Quite one of the best remedies I know for this fungus pest is syringing the foliage with sulphur, which requires special preparation, it being difficult to mix with water in the ordinary way. Take an ordinary glass pickle-bottle or jar with a wide mouth, place in it a small quantity of brown sulphur, pour over it water, stirring the while till it becomes the consistency of paint, adding more sulphur and water until a sufficient quantity is obtained. To every three gallons of tepid water add a wineglassful of the sulphur, when it will readily mix with the water, and is easily syringed on the plants. The evening is the best time for syringing.—E. M.

Beautifying Edinburgh's Gardens.

Last year, when Mr. M'Hattie was appointed Edinburgh city gardener, he set about a rearrangement of the East Princes Street Gardens at the Scott Monument. The footpath was removed to the south side of the plot, and other arrangements were made which have been generally recognised not only as an improvement, but, in a sense of relief, as the former arrangement had become too familiar, and perhaps tedious. The new plan of laying out the Gardens has allowed the gardener to display his art on a more extensive scale, and in a few days' time the

Mouceron, which have been planted to the right and left of the Scott Monument, are in full bloom just now, and with the Thomas Moore, also in an advanced stage, give a good idea of the scheme of colour. Interspersed with the bulbs are various small flowers, such as Daisies, Forget-me-nots, and Arabis alpina. On the east and west of the Adam Black statue are pretty groups of Prince of Austria, and on the north and south Queen of Violet Tulips. The balcony along the terrace has been fringed with Tulips and Wallflowers. Earlier in the season 5,000 Daffodils were planted on the terracing, and made an effective display. Their season is past now, however, and other flowers will soon take their place. It is hoped to make the banks a little gayer



Polypodium glaucum Mayi, natural size. (See page 456.)

public will have an opportunity of properly realising the effect of the change. The Public Parks Committee and Mr. M'Hattie are to be congratulated on their efforts to beautify the Gardens, the first step of which has been the planting of spring flowering plants. This is the first year of the departure, and although the winter has been severe, the results should encourage the committee to go even further next year. Of course, the spring bedding will not affect the usual bedding of Geraniums, Begonias, Gladioli, &c., in the summer. Hyacinths and Tulips in large numbers have been planted in Princes Street Gardens, east and west; St. Patrick, Nicolson, and Brown Street Squares; Regent Road, St. Bernard's Well, Inverleith Pavilion Grounds, and Abercorn Park, Portobello.

In East Princes Street Gardens alone 1,400 bulbs of twelve varieties have been planted, and these have been laid out in a very effective fashion. The colours have been admirably arranged, and the bulbs are now in full bloom. The scarlet

next year, when, through the assistance of a gentleman who has gifted £20 for the purpose, Crocus bulbs will adorn the terracing. Owing to the severe winter the Wallflower was unfortunately killed, and the Forget-me-nots were hardly successful, but Mr. M'Hattie means to try again another season, and hopes for better results. The following are the names and colours of the Hyacinths and Tulips planted in East Princes Gardens:—Bedding Hyacinths—Grandeur à Merveille (rose white), Priestley (light blue), Gertrude (pink), Fireball (crimson), La Belle Blanchisseuse (pure white). Bedding Tulips—Chrysolora (yellow), Moucheron (scarlet), Brilliant (vermilion), Couleur Cardinal (crimson), Prince of Austria (red yellow), Duchesse de Parma (bronzy crimson), Yellow Prince (golden yellow), Proserpine (rich rose), Queen of Violets (violet), Thomas Moore (orange), Rosa Mundi (rose and white), Van Berghen (rosy crimson). Other spring roots and plants—Daisies (two kinds), Wallflower (eleven kinds), Primroses of sorts, Myosotis or Forget-me-not, and Arabis alpina.

Apple and Pear Prospects in Somersetshire.

Despite the chilling weather experienced during the past few weeks, it is really amazing to see what a steady advance and hopeful prospect there has been in tree growth; but a continuance of such ungenial wind and drought may yet change the prospect of full and overflowing measures into that of empty ones. The present fulness of promise is no doubt the outcome of the summer weather of last year bringing about a ripeness of the current growth; but it remains to be proved whether the prolonged absence of rain at that time is favourable in giving blossom fully fertile and strong. In many of the Pears there seemed a thinness of the petal, which would, if true, imply debility, or an absence of the needful stamina. It is yet too early to calculate with any degree of certainty the coming prospects, for so many incidents may occur to thwart the progress of the embryo fruits. The weather, though so chilling, has not had the same baneful influence that follows the alternative mild and cold periods of some years. The cold wave has continued so long that the whole of the spring growth has advanced under these hard conditions. This may give rise to the hope that recent light frosts may not have their usual effects. The dry state of the atmosphere, too, has been all in favour of this immunity from frost damage. The state of the soil now begins to raise doubtful issues for the summer, for at a good depth the absence of normal moisture is being distinctly felt. Excavations to a depth of from 2ft to 3ft recently made show this to be an evil that vegetation will sooner or later have to reckon with, unless rain speedily comes. In this neighbourhood there is already a deficiency of quite 2in of rain compared with last year, and of 5in less than was recorded in 1900. Should the summer compare with that of the past two years, fruit trees will have a still greater effort to maintain former reputations, whether they be of surface or deeper rooting natures.

The resisting powers of trees, and especially those growing near to or on garden walls, is really marvellous; facts these are that have been so fully demonstrated within the past few years. Up to the present the season has been favourable for all newly planted Pear trees, judging by the freedom and extent of growth there has been made. With further absence of rain the time has arrived when water and a mulch of manure will be required, in order that this satisfactory state be continued. Pears in almost every variety and description seem unanimous in the effort to establish a record in the matter of crop, so free and full have the trees flowered. It is scarcely possible to individualise on this particular heading.

Apples are not one whit less remarkable than Pears in the grandeur of their floral dress. If anything, the effort is more pronounced than was the case with Pears, though, in all fairness to the latter trees, they have not the same depth of colour tones, or the stout substance in the petals which Nature endows the embryo Apple with. The orchard tree vies with the garden bush, and the cordon with the last-named in their profusion and delicacy of their spring dress. The light crops of last year prepare them for this floral fashion, and as they were of a universally low state then, it would appear that this season, given favourable weather, the markets will require the exercise of a greater capacity for store and distribution than that too well remembered in the last one, when light crops and partially filled fruit rooms were the more common experience everywhere. It does sometimes happen that an excessive display of spring blossom does not end in a corresponding bulk of autumn fruit. There would not, however, appear to be anything in the present aspect among Apple plantations to lead one into the path of doubt on this score. The rest of last year, thorough ripeness of the season's growth, together with the hardening influence of the weather under which their growth and blossom has advanced, all tend toward a hopeful ultimatum.

In the western counties one does not hear so much of the invasion of insect enemies as is known in the larger orchard areas about Kent, Hereford, or Worcester. Trees in Somersetshire are grown more under grass than arable culture, and of course in smaller isolated plots. Under grass cultivation pigs and horned stock can, and are often grazed at the time when the insect-infested fruits fall to the ground, and as these are of no particular commercial value, they are quickly consumed by these animals. By these means, no doubt, a great extent of insect life is destroyed.

and poultry having access to the orchards at all times, find others within their reach having escaped from an earlier death. There is no uniformity of insect invasion, for one year will differ very materially from another in the extent of trouble they invite to those responsible. Codlin moths and Pear midges have not, as a rule, the same terror applied to the private garden as that of the greater commercial centres. To some degree the presence of so many kinds of birds that are intimately associated with the garden this immunity is due. It is no undisguised fact that bird life enters largely into the home life of the rural country, and while some are acknowledged to be most useful, and are allowed an unrestrained freedom, there are others that are regarded as foes rather than friends, rightly or wrongly, and treated accordingly.—W. S.

Rhododendron Sappho.

It is very infrequently that hardy Rhododendrons are figured in the pages of any horticultural journal, though this is not because the flowers themselves are not worthy of being thus prominently brought to notice. Rhododendrons have been, and always will remain, great favourites with planters. The very hardy *R. ponticum* is both a useful covert shrub and an object of much beauty at all times, and especially when wreathed with lilac-coloured flowers. The variety *Sappho* has been chosen by us because of its handsome flowers (white blotched with dark maroon) and striking character. For twenty years this has been a favourite, though even now we notice some of the nurserymen do not catalogue it. Messrs. Waterer of Bagshot, Messrs. Clibran and Messrs. Dickens of Chester, stock this Rhododendron, and stock can be procured from either of them in the autumn. Standard Rhododendrons for lawns and prominent places might be more employed than they are. Rhododendrons love a well-drained, cool, peaty soil, and sheltered position. A "dell" suits them well.

The Weather of Newton Mearns.

The weather in the Mearns district, seven miles south of Glasgow, has been of an exceptional character since the spring commenced. Keen, biting, cold north and north-east winds have been the prevalent winds of the months—March, April, and May—and vegetation on the whole has suffered much thereby and been retarded. During the months of March and April heavy frosts were registered in the early mornings. With the approach of May, this month has been more or less proverbial for the cold weather experienced. The axiom applied to the coldness of May is not belied, and the horticulturist feels discomfited. The thermometer, which had been at or below freezing point on nearly every night since March came in, registered 10deg on 10th inst. In this district this has only been exceeded on any night in the month of May on four occasions during the last quarter of a century. The lowest records for any night in May: 1891 was 12deg frost; 1892 was 11deg frost; 1894 was 12deg frost; 1897 was 11deg frost.

In addition to the cold we have had a large succession of dry weather, accompanied by strong east and north-east winds, than usually fall to be recorded. The springs in the district—and a rather hilly one it is—have had a most trying time of it, and many of the larger ones, which have never been known to lessen their supply, have at the present time been considerably reduced, while the smaller springs have ceased running entirely. A welcome change in the atmospheric conditions came on 15th inst. Rain fell on the morning of that day, and continued till well on in the day. On the 17th there was a further fall, although a considerable amount of rain had fallen, and which gave the country a pleasant appearance. Still, its presence had no effect in removing the cold winds. On the 18th the wind shifted from the N.-E. to N.-W., and blew a gale all day, accompanied by blinding showers of sleet, hail, and rain. In the evening the temperature rose considerably, but more rain is essential before we can look for pleasanter atmospherical conditions. The following temperatures were recorded during the nights:—

	Degrees	Wind
Monday, May 12th	35	East
Tuesday, May 13th	32	East
Wednesday, May 14th	30	North-east
Thursday, May 15th	31	East, shifted to S.E.
Friday, May 16th	35	South-east.
Saturday, May 17th	26	East
Sunday, May 18th	32	North-west

—R.



RHODODENDRON SAPPHO.



Bothies: Moral Nuisances.

Ho! ho! 'tis a man o' Kent who speaks.—Anonymous.

The modest request of "H. R., Kent," in the circumstances and limited space for such matters, may probably be better answered by asking a few questions: (1) Is the bothy a place in which you would have your son to get the rudiments of his future character laid down? (2) Could you ever bring yourself to consider the bothy your home? (3) Have you had the misfortune of being laid low on the inhospitable bed of the bothy? (4) Did you not consider it but a miserable substitute for that other thing which the Briton adores next to his God—"Home, sweet home"? (5) Is it not selfish, and perhaps cruel, for head gardeners to lend their influence in upholding a system which, at best, is but a miserable apology for economy? (6) Why should assistant gardeners not take their stand on the same platform as other tradesmen, and not be trammelled with emoluments which but ill make up, as alleged, for the difference of their respective salaries? (7) Do you consider it honest to take the advantage of young beardless lads for the gratification of your employer, who may or may not care for you or them more than to see that his place is well kept for next to nothing? (8) Do you believe that the bothy and its perquisites fully compensate for the difference of salaries of gardeners and other skilled labour? (9) Is it not the fact that the intelligent youth who previously could be found in the art give it now a wide offing, and why? And, lastly, I think if these questions are honestly considered, there shall be enough reason to anathematise the bothy a "moral nuisance," without invoking "Crabbe" to go into the interior to describe what exists there. Possibly you may be aware of "Cobbett's" estimation of the system as affecting Scotland. "Better," he says, "the fire raisings of Kent than the bothy system of Scotland." This is black enough, I admit, but while the fire raisings would only be temporary he could see the baneful effects of the other would be indefinite.—C. H. S.

Points about Celery.

The very able article on the above by your correspondent Mr. J. Wright, on page 381, May 1, contains a paragraph of very great importance to the gardener who is expected to have a good supply of Celery. He says: "Beware of strong doses of liquid manure, as this is a prolific cause of hollow, pithy stems." This advice, no doubt, may be good in more ways than one, but to my mind it is not sufficiently clear. I do not think that manure, either as a liquid or in the trenches, has much (if anything) to do with this great fault in Celery growth. If that were so I should not have much to fear, not having a great quantity at my command. However, I am sure that these hollow stems are not always caused by over-feeding. I have seen Celery grown in a variety of ways, and my experience differs, perhaps from a few, for when growing Celery for exhibition (at which time it was most liberally treated) we had less of these hollow stems than we have been having since the trenches have only received a third of the manure and no liquid nourishment at all, its place being taken by the use of the hose pipe. For a long time I have had an idea that these faulty plants could be detected in an early stage if carefully examined, say at planting time. But through stress of work I never found it convenient to take part in the planting myself until last year, when I assisted in planting the main crop, and in doing so I carefully examined each plant, and, to my great satisfaction, I was able to detect a good number of what I was sure were hollow-stemmed plants. The result was very satisfactory, as we did not suffer nearly so bad as we had done the previous year. I am sorry to say, however, this was not the case with our early supply. This close examination did not take place, the result being a great quantity of worthless stuff. Of course, they were detected long before they were ready for use by the well-known method of pressing the leafstalk between the finger and thumb, and only for appearance sake they were allowed to remain until lifted for use. This, I think, is sufficient proof that these hollow-stemmed plants are not caused by manure alone. But, whatever is the cause, I am sure I will not be the only one who will be pleased if, through the pages of the Journal, a remedy can be enunciated to ensure our having plenty of this very important vegetable in the best of condition.—S. E. H.; Birkenhead.

Leaf Curl in Peaches.

Will "J. W." kindly state what is the proper strength of Bordeaux mixture for Peach and Nectarine trees?—INEXPERIENCED.

Fruit Production.

"H. D." supposes the case of six or seven million bushels of English Apples taking the place of the foreign supply. But this could only happen through our underselling the American, French, and Belgian exporters. This is just my point, which "H. D." fails to see, and, in what he objects to as a "mixture." I pointed out that precisely the same argument as his, but in reference to butter and eggs, was used by many writers. I showed how foolish it was to tell farmers that they should try to keep out the foreign supplies of eggs, which come here at 18 to 20 per shilling, and it seems to me as hopeless to drive foreign Apples out of the country. Before we can do that we must keep our markets so glutted all through the season as they usually are already in September and October that it will not pay foreigners to send us any. We have done the trick nearly this season with late Potatoes, but how? By so glutting the markets that prices on the farm have been 30s. per ton, or less, in many places.—OBSERVER.

The Bothy Plan.

Kindly allow me to say that I think the letter of "Mac, Edinburgh," on page 433, the most practical of all those which have appeared on the bothy question up to this present date. He is quite right—every young man should have a room to himself, a place where he can be alone if he requires it. This could be managed, without much expense, on the cubicle system. And then, again, it is almost impossible to over-estimate the importance of good lavatory accommodation and a bath. Where there is much stoking of fires young men get very dirty, and any head gardener who has been "through the mill" knows what a luxury a warm bath is on coming off duty. Another very necessary thing is a plentiful supply of clean linen—sheets, pillow-cases, towels, &c. The writer was once in a bothy in Yorkshire where one of these latter articles was allowed per week to be shared by three young men! And this, too, in a nobleman's garden which cost £1,000 a year to maintain. I am writing from the North of Scotland, where I am sorry to say the bothy accommodation is of a very poor order, and where, as a rule, the young men have to attend to the bothy themselves. This is a bad arrangement in every way—bad for the men, bad for the garden, and bad for the bothy. I consider "H. R.'s" suggestion of a hot water-heated bothy a very bad one. Besides being dingy and cheerless in the extreme, it would be very unhealthy. The chimney acts as a good ventilator, especially when the fire is lighted. Most young men, moreover, have enough of hot water-heated structures in the daytime—at any rate, those of them who work under glass.—A NORTHERN GARDENER.

Gardeners' Education.

It is now rather more than a year since you kindly inserted a few lines from my pen regarding the above subject. Some very sarcastic criticisms were made on it, but somehow I did not reply. Another education champion (Mr. W. H. Divers, page 303) has come forward with his views, so please grant me a corner for a few lines in answer to this. Your correspondent fears, quite rightly, that gardeners devote too little time to improving their minds. Further on he suggests that botanising, studying the growth and measurement of trees, studying insects, photography, geometry, chemistry, &c., would be of great service to them; but why stop at this, dear young brother? Names of plants and meanings of words are as useful as anything, so don't forget Latin, Greek, German, French, Italian, Japanese, and so on, ad infinitum. Then, when you have mastered all those, there are geology, pneumatics, hydraulics, electricity, astronomy, geography, history, book-keeping, and many more could be added if the mind is still hungry, which would be of immense service to you. By the time you have learned all those in your spare time, I have no doubt you will be qualified to manage one of the many fine gardens in the country. Now, if you have independent means, you can afford to wait for a few years till a vacancy occurs; if not, any of our leading nurserymen will, after you have filled in their "character" papers, possibly favour you with a livelihood. You will get 15s. per week of sixty hours' hard manual labour, in company with an exceedingly edifying class. Whatever circumstances you are in after a period, the duration of which will depend on your luck,

you will be appointed to the charge of His Grace So-and-So's gardens. If His Grace is wealthy and liberal, you may get £100 per year and vegetables; if not, you may have to be content with £90, or less. I must here remind you, dear young brother, that there are only a comparatively few of those positions in this country, so, as we are all to start, you must be prepared to beat, by superior intellect, the 30,000 or so of your brethren. When you are duly installed, your fellow domestics will consider you quite respectable and call you Mr. On the other hand, if unsuccessful, you may have to be content with £70 or £75 a year, and along with ordinary garden duties you will have charge of some fowls, pigs, and cows, and carpet beating. Here another "ology" might be useful to get the dust out of your throat; of course you could wash it out. When you reach the age of fifty years, if you are still honest, hardworking, energetic, and your family small and well conducted, you may be allowed to keep your position; if not, you have still three alternatives—nursery again, with a reduced position in view, the Gardeners' Royal Benevolent Institution, and the district Union. As you would have quite sufficient on hand up to this date, I must now recommend you to study the book which Mr. Divers mentioned as if by an afterthought; it will doubtless afford you more consolation than you have had hitherto.

I have endeavoured to outline your career, dear brother, if you will be advised by Mr. Divers. Of course, he thinks differently. He says out of thirty-six companions only three got to the top of the ladder, and this was, of course, by their intellectual superiority. Well, it is quite possible, but I hope Mr. Divers does not mean to suggest that all the gardeners in high positions are intellectually superior to many in quite humble ones; and I hope also that he does not suggest that they are better gardeners, or that they secured their positions by their mental or technical capacity alone. There are scores of gardeners in good positions to-day who would soon be humbled if they competed on an equal basis with the small gardener. Many retain their positions only by securing good practical foremen to do the work, and the gardener does the talking and takes the credit. This is the sort of man, as a rule, who, after some years, will advise the rising generation. You must never commit the fatal mistake of congratulating such a one on his luck in securing his position. Why, bless you! it was entirely his talent. Here take note, reader, that I know no more about Mr. Divers personally than I do about the man in the moon. The reasons for most appointments are as variable as the appointments themselves; even golf has been instrumental in some cases (!), and quite frequently young men of only six or seven years' experience are appointed to good positions. One of the finest gardens in the north of England was put in charge of an uneducated man of twenty-two, and he is still there.

It is surprising to hear some people talk as if they were educated men. With the usual exceptions, a very small percentage indeed, gardeners are not educated, as I look upon education. They have no need to be, and never will be. Does Mr. Divers or any other man seriously mean to say that any young man who was blessed with the strength of will, purpose, and talent to devote every moment of his youth to study, should become a common domestic gardener? Why, it is positively absurd! There are many fields open to cultured men without lowering themselves to this level. Let me give you here a few illustrations of the man of purpose. I went to school with three boys whose parents were very poor indeed, their mothers being charwomen. In school I am certain I was a better scholar than any of those, but (nota bene) two of those boys are to-day ministers of the Gospel, the third is a Professor of Languages. Two of them served an apprenticeship to gardening in a neighbouring garden to that in which I served. Unlike me, however, they never left off learning, and when their apprenticeship was over they went to college and maintained themselves by bursaries and working manually during their vacations. I went to a nursery and worked for all I was worth ten hours a day for 10s. per week. I must here say that I am, and always was, considered respectable, and I never played very much.

Now, supposing those boys who started gardening had devoted their time to Mr. Divers' subjects, would they be so far above me to-day? I am positive they would not. They earn £200 or £300, while I earn £60. Others of my school companions who learned little at school, and very soon forgot even that, are to-day earning from £2 to £2 10s. per week at the building trade, and they scarcely ever opened a book. Those are only a few out of thousands of similar instances. Gardening is a fairly pleasant occupation; personally I love it. Still, it is plain to everybody that the remuneration one gets is not sufficient to compensate for the practical work and manual labour required, let alone hours and years of science studies which are not at all necessary. If you are ambitious to be a good gardener, read the *Journal of Horticulture* every week; it differs from self study in this, that it is a pleasure, not a drudgery, and you will reach your goal a lot sooner.

I sincerely hope that all those young men who have sufficient strength of purpose, ambition, and love of study, will direct it into other channels than that of gardening, and those who have

not, will further their interests best by getting into some famous garden if possible, and by good conduct, hard work, and servility, gain the graces of their master. Servility is really the most potent factor. Sooner or later you will get an appointment, but do not take charge of a small garden with the hope of getting a large one later on. Small gardens are the ruin of some men—in this way. The owners in their ignorance expect quite as much (if not more) of their gardener, and forget entirely that they do not provide the conditions on which success in any branch can be attained. This leads to disputes, and eventually a characterless shift, for the gardener. I must now conclude, Mr. Editor. I hope I have not trespassed too much on your space? [Much of what you say is true.—Ed.] As you can see, I am not educated; If I was, I would have been able to condense this. I shall be very glad if my remarks are the means of awakening some studious young fellow from pursuing a course which he will for ever regret. I feel quite sure that had I some good counsellor at a certain time to direct my love of learning into a proper channel (it is now too late), I should not have to sign myself a—DOMESTIC WORKING GARDENER.

Climbing French Beans for Forcing.

The forcing of Beans during the late winter and early spring months proves often a laborious undertaking, when, as it often happens, the demand is a continuous and heavy one. Forced Beans, so unlike the naturally grown, are very transient in their cropping powers. A very few successive gatherings complete their work, and the need for progressive batches asserts itself. There are many varieties of the Dwarf Bean more or less suitable for forcing, but all have the same short life under these conditions. For the climbing varieties so many private growers have no convenience for forcing, because of the needful headroom for their trailing growth. They are thus not commonly adopted, partly because of this, and partly because their merits are not sufficiently well known for forcing purposes. It is several years since the earliest of the climbing section first originated, and which, I believe, was first found as a chance seedling, selected from a batch of Canadian Wonder. Since then hybridists have turned their attention to this desirable section, and as a result to-day there are several very excellent kinds available for everyone. Veitch's Climbing was the pioneer of this race, and still remains a good all-round and freely cultivated Bean. Messrs. Sutton and Sons, it would appear, have a great claim of credit in the production of no less than five distinct sorts with climbing habit, one at least having the honour of a First Class Certificate from the R.H. Society—the hall mark of quality. The only kinds I have proved for forcing are Veitch's Climbing and Sutton's Epicure. Others may be as good, but their merits are untried; these two certainly revolutionise the work of forcing where the necessary space is available for them. These two are entirely distinct one from the other, the first named having the style and character of the well known Canadian Wonder, both in the length and smoothness of pod; the other is much thicker and more round and of a paler shade of colour in the skin.

A sowing of Epicure was made in shallow boxes early in January to which strings were fixed with tacks and strained to roof wires above. No further trouble was necessary in training, for the runners clung tenaciously to the strings in their rapid upward progress. Their points were removed when they advanced about 4ft, with a view both to reduce their height and to hasten pod-bearing. They were not so quick in fruiting as the dwarf sorts, but once they did commence, periodic gatherings were continued over a lengthened time. Indeed, several batches of dwarfs have been sown and again cleared out while these climbers go merrily on. Nor is this all, for given weight for weight, the latter outstrip the dwarfs with the greatest ease in the race for economic production. Bearing in mind their natural vigour, and the tendency there is in making undue length of vine when forced, a course of soil treatment—a little at a time—is the better one to adopt, because in this way their growth can be easily kept in hand. As under natural outdoor culture they will rise to a height varying from 6ft to 10ft, a corresponding depth of space must be provided, or at least is the better part of economy to provide when grown under glass. By stopping the shoots, much of this can be reduced, and by soil restriction it may be still further curtailed. The first topping of the leaders did not bring us flowers at once, though the side shoots that issued gave indications of this promise. The first gatherings came from near the tops, and when vigour was reduced and the crop somewhat expended on the upper portion of the stems pods developed downwards to near the soil. Thus the succession, instead of being continued upward, as is customary, was effected in the opposite direction. Liquid manures and an occasional light dressing of bonemeal are excellent stimulants for sustaining growth and pod-bearing.—W. S.



A Note on the Sweet Pea.

Harry Eckford first started crossing and selecting from *Lathyrus odoratus* and its few primary varieties in the year 1873. Though now over eighty years of age, he is able to fly about on a bicycle, and still offers improved novelties each year. One of Eckford's early surprises was when Sweet Pea Mrs. Sankey, a pure white flower, yielded black seeds. Before that time white-flowered Sweet Peas gave light-skinned seeds, but, crossing here again, mixed up the characteristics and showed how thoroughly infusion becomes.

Material for Layering.

Nurserymen rely a good deal on layering for the increasing of many of their trees and shrubs (says Mr. Joseph Meehan). As will be understood, the nearer the branches are to the ground the better is the work facilitated. Sometimes a large branch may be bent down and kept in place by pegs, but one of the best ways, where practicable, is to cut down to the ground some large bushes, doing the work now, then a crop of young shoots come, which are just what are wanted for layering. There are exceptions, but nearly all shrubs can be increased in this way; and to get a good crop of shoots for the purpose, cut them down at once.

Newly Planted Vines.

When the Vines recently planted have taken to the soil, as will be indicated by their growing freely, ventilate early in the day, as the value of growth is dependent more on its sturdiness and solidification than on its length and sappiness, and there is no remedy for a large pith and ill-matured growth. Encourage laterals rather than elongation of the cane, but that extend and retain all that growth that can have exposure to light. That is desirable where the Vines are weakly, but if they are vigorous it is a better plan to pinch the laterals at the first joint and to one leaf of subsequent growth, stopping the canes at 9ft to 10ft, and allow the uppermost to grow a few joints and then keep all closely pinched. If the cane breaks into two growths cut away the worst. Supernumeraries intended for next year's fruiting should have the laterals pinched at the first leaf, afterwards allowing them to make a few joints of growth if weak, otherwise pinching to one leaf, stopping the cane at 8ft or 9ft of growth, taking every possible care of the leaves on the cane, not allowing them to be interfered with in any way by the laterals. Keep the soil moist, but not very wet, closing early with plenty of atmospheric moisture.—G. A.

Flowering Trees and Shrubs.

Although there are drawbacks to the inclement weather experienced during the greater part of April and the first half of May, yet some compensating advantages may be found. The latter are particularly noticeable in the length of time the Wallflowers have remained in bloom this spring. Forget-me-nots, Aubrietia, Polyanthus have bloomed well, and the flowers, where not exposed too much to the cutting easterly blasts, have remained fresh and bright longer than usual. The Lilac blooms have opened slowly, and are now bright and attractive. What a grand flowering tree for a shrubbery is *Pyrus floribunda*. The rich golden sprays of *Berberis Darwini* have been specially pleasing for several weeks. The common Gorse, with its armoured foliage, yields a mass of delightfully bright yellow blooms, which light up the shrubbery in spring time. The Forsythias are always appreciated when long shoots droop and arch in a graceful manner, each studded with the beautiful yellow blooms. *Clematis montana*, growing in wild profusion on trelliswork over porches and roofs and fences, will soon be a dense mass of bloom, especially when the weather changes to warm, soft airs. The absence of warm days up to the present will eventually prove beneficial to the Roses, which being so sensitive to an increased temperature, are often induced to grow early, the leaves afterwards being crippled and curled, and insects appear. The Horse Chestnuts are later than usual in blooming, and the majority of trees and shrubs feel the want of warmer weather.—E. D. S.

Evolution of the Tuberous Begonia.

In the year 1864 Pearce sent home to Messrs. Veitch and Sons, Limited, *Begonia boliviensis*, in 1866 Pearce followed, and Veitch in the same year. Shortly afterwards John Seden (of Veitch's) raised the first hybrid, a cross between *B. boliviensis* and *B. Veitchii*, and which was named after him—*Sedeni*. *Chelsoni* was another of the earliest hybrids. *B. Gloire de Lorraine* appeared in 1884 from crossing *B. socotrana* with *B. Dregei*. *B. socotrana* and the tuberous Begonias have given rise to the winter flowering race.

Polypodium glaucum Mayi.

Beautiful Ferns that are at the same time serviceable for purposes of embellishment in cooler dwelling rooms, are not well known, though they are, nevertheless, not a-wanting. The variety illustrated on another page this week is a very handsome Fern, and of easy cultural needs. Mr. H. B. May, of Dyson's Lane Nurseries, Upper Edmonton, showed it in 1898 at a Royal Horticultural Society show, and was awarded a First-Class Certificate, which is proof of itself that the form is meritorious from the ornamental point of valuation. The plant was originally exhibited as *Phlebodium* Mayi.

Akebia quinata.

This elegant hardy climber deserves more recognition than has been usually accorded it, and I feel constrained here to draw attention to it from the fact that recently I noticed that it was most effectively employed in a floral decoration against a tall marble tombstone, and somewhat resembling superficially, both in leaf and flower a miniature form of *Clematis*. Other spectators also appeared to be interested with its appearance, and were ignorant of its identity. The *Akebia* is said to be a small genus of *Lardizabalaceæ*, distinguished by having separate male and female flowers. The freely running slender stems of the species in question is furnished with very pretty leaves, consisting of three to five ovate or obovate leaflets, and from the axils of these leaves grow the racemes of dull red-purple fragrant flowers, of which the upper are smaller and sterile, the lower larger and fertile. The colours of the flowers, both male and female, are the same, and the calyx consists of three short concave segments. The plant altogether is of a most interesting character.—W. G.

A Liverpool Roof Garden.

The illustration on page 457 gives some faint idea of what may be accomplished in the midst of a crowded city by utilising roof space to the best advantage, and I fail to see that such good work could not be accomplished by most persons possessing their own property and whose inclinations have a bent for the fascinating study of horticulture. The house illustrated is about 20ft by 12ft, span-roofed. On entering the busy premises little thought would be given of a trace of gardening being found, but after mounting several long flights of stairs you emerge out on the roof top and feast on an unexpected floral picture. Strong supports, built from the eaves and carried up to the level of the ridge, is the foundation of the greenhouse, the boarded floor allowing of the water passing through and running down the slates underneath. Extensions, too, have gone on, so that now the whole roof is a garden picture. In the summer time you may see in the cork-covered boxes—for everything outdoors is boxed—Sweet Peas in charming condition. Carnations, Gladioli, and the hosts of seasonable flowers greet the eye. Rustic arches adorned with creepers are at intervals to break the monotony, and even the homely Currant and Gooseberry find a home, the spring bringing its pleasure also.

Chrysanthemums have their place set apart until ready for housing. The greenhouse is never without its flowers—bulbs of every sort there, Azaleas, Fuchsias, Pelargoniums, Ferns, Palms, a few Orchids—these and other warmer subjects having a case built for them at one end. Tomatoes, and even Cucumbers, have been with other things successfully grown, whilst a decent looking Vine is making good progress. The heating is done from the kitchen fire, driven through lead pipes to the top of the building and jointed on to 4in hot-water pipes. A love for the work, gained through the pages of the horticultural journals, attending of shows, and last, but not least, attending the meetings of the amateur gardeners, has enabled Mrs. Stevenson to surmount many difficulties, and hold a "high position" as an exhibitor at our shows.—R. P. R.



A Liverpool Roof Garden.

An Edinburgh Nursery.

Being North recently, and having an afternoon at my disposal when in Edinburgh, I utilised it by inspecting a noted Scottish nursery—I refer to that of Messrs. Dicksons and Co., which has been established since 1770, and is universally known as a substantial house. The Edinburgh folks, as all know, are proud of their grand city, and so they are of their old nurseries of high repute, and Dicksons is looked up to and pointed at as a grand example.

The seed shop and offices at 1, Waterloo Place, occupy one of the most central positions in Edinburgh, but the nursery is further out. On my first acquaintance with the firm some thirty years ago, the nurseries were at Red Braes and Pilrig, but they were squeezed out from both positions by the encroachment of railways and builders; but the firm will be much older before such happens again, as the present nursery is over two miles from the town, near Craigmillar, and is easily and quickly reached by cable car. The winter now over has been one of the most severe experienced in Scotland for many years. Winter after winter the old gentlemen have been calling out "Ice! Ice!" to curl on, and many gardeners are included here, but in January and February of this year the cry was reversed, and thaw begged for. You will therefore understand, sir, that the winter in Scotland has been a trying one for vegetation, and while interestingly occupied in examining the vast stores of plants with which the nursery is admirably furnished, I was keenly observant of how they had stood the frost, and was a little surprised and much gratified to find very little trace of injury by frost on any of the subjects. Their exemption I attribute to the well-drained soil the plants grow in, and the full exposure they are subjected to, which ripens the wood so thoroughly in autumn that frost has no effect on them.

The nursery extends to 100 acres. Fruit trees occupy a large space. They are thoroughly well grown here, and the demand for them this winter has been unprecedented: a condition I hear of in the South, too; and is a sure indication that fruit culture, which we are so anxious to see extending in this country, is doing so. The nursery was exceptionally void of old trees. Indeed, there are none there over two or three years old, but tens of thousands of young ones of all popular forms are coming on. Another feature is the forest trees. The Scottish nurseries are invariably great in these, and owing to its extent Messrs. Dicksons' is conspicuous; and here again the supply can hardly keep pace with the demand. One tree, in particular, is having an

enormous run on it this year. I refer to the Japanese Larch, which Messrs. Dicksons have been most assiduous in introducing to this country in large quantities, and advocating its superior claims over the old Larch. The main points of the Japanese are that it grows more quickly, resists the disease very much better, and is altogether a better tree than the old Larch. My own observation elsewhere leads me to the same conclusions. Ten years ago I planted a trial sample of this Larch near some of the common ones, and to-day they are a yard or more higher and very robust, and their more brown colour when not in leaf is very pleasing. All the larger trees were sold out at the time of my visit, but the multitudes getting ready for next winter and succeeding ones are convincing of the confidence the firm have in this as yet little-known Larch. Oaks, Ash, Spruce Firs, Elm, and Beech are largely grown, and ornamental trees and shrubs are given much attention.

Rhododendrons of the fine flowering kinds and ponticums for covert planting were capital. Roses of all kinds are largely grown, and all had escaped injury by frost remarkably. I may observe I saw this nursery when the firm took to it some dozen or more years ago. It was then a farm, under the plough, but it has all been spade trenched since, thoroughly cleaned, and made deeply fertile, and its present condition is absolutely satisfactory and in the highest state of production. As a rule, Scotch nurseries are considerably behind the English ones in their glass house arrangements; but the opportunity was taken here in forming the new nursery to erect many ranges of up-to-date glass houses. They are excellently adapted for plant culture and most conveniently arranged as to facilities of working, and what is of equal importance to the firm and the public, they are replete with well-grown batches of all kinds of stove and greenhouse plants that are vast improvements on those of the old nursery times.

Cleanliness and good health are their conspicuous features. What may be termed the florist flower class of plants meet with capital attention here. I can hardly recollect the time when I met with such a fine batch of herbaceous Calceolarias as filled one of the long glass houses. Some hundreds of them are growing in 9in pots and equally as many in 6in ones. None were in bloom, but all gave promise of superior excellence, as the numerous leaves on each plant were as large as one's open hand, thick, green, and in the very best of health. I could not help congratulating Mr. W. H. Massie, the head of the firm, on this strikingly conspicuous display of superior culture of the Calceolaria, and I advised him to send a batch up to one of the Royal Horticultural Society's meetings when they were in bloom, as I

was sure they would remind many agreeably of bygone days, when this class of flower was more often seen in perfection than it is now; but his reply was: "We only grow them for our seed supply, but may show a few of them at the Edinburgh Spring Exhibition."

The Primulas were equally fine, both in plant and variety, but they, too, were only looked on as seed producers, and I felt a great regret that such a magnificent display should be hidden away, as it were, from public gaze, where they would be so fully appreciated. Cyclamen, too, were in all their glory, with huge leaves and innumerable flowers of great strength and delightful colours and hues. Adjoining the large glass houses are many frames packed full of Carnations, Pansies, tufted Violas, and kindred flowers, which will be dispersed throughout the world as soon as the more genial weather of spring and early summer occurs. Mentioning Violas reminds me that my first acquaintance with Messrs. Dickson and Co. occurred through these plants. That is very many years ago, when the firm were almost alone in their advocacy of Violas as excessively useful flowers, a contention which has been amply verified since. There have been changes—inevitable changes—in the firm since then. Old friends have passed beyond recall, but "Dicksons and Co.," as at present composed, and all their belongings are, according to my close observations and past and present opportunities of judging, as substantial and more advanced than ever.—AN ESSEX READER.

Societies.

Royal Horticultural—Drill Hall, May 20th.

Tulips and Orchids predominated at Tuesday's meeting in the Drill Hall, James Street, Westminster, and the National Tulip Society's Show was held in conjunction. The Hall was moderately well filled, and a fair attendance was recorded. In the afternoon Mr. A. D. Hall, of Wye College, Kent, lectured on the English Tulip.

Fruit and Vegetable Committee.

Present: Joseph Cheal, Esq. (in the chair); with Messrs. Geo. Woodward, J. W. Bates, S. Mortimer, Alex. Dean, E. Beckett, Geo. Kelf, Henry Esling, Horace J. Wright, Geo. Norman, J. Willard, Geo. Miles, and G. Reynolds.

Messrs. Thomas Rivers and Son, The Nurseries, Sawbridge-worth, Herts, received an Award of Merit for Duke of York Peach, and staged also fine dishes of Duchess of Cornwall and Prince Edward Peaches, both fair-looking varieties.

Messrs. A. J. Thomas, Rodmersham, Sittingbourne, sent Apple Diamond Jubilee, a deep golden variety, not unlike Golden Noble.

Messrs. W. Jewson, Begdale Nursery, Elm, Wisbech, sent an unnamed dish of Apples.

Cultural Commendations were awarded to Messrs. Rivers for fifteen splendid fruits of Cardinal Nectarine, and to Mr. J. Hudson (gardener to Leopold de Rothschild, Esq.) for the same variety, the fruits from trees in pots. The latter were very firm and intensely crimson, whereas Messrs. Rivers' were much larger fruits, though slightly less deep in colour.

Miss Adamson (gardener, Mr. Geo. Kelf), South Villa, Regent's Park, received a Cultural Commendation for a large boxful of Royal Sovereign Strawberries.

Narcissus Committee.

Present: H. B. May, Esq. (in the chair); with Messrs. A. Kingsmill, J. D. Pearson, J. W. Pennett-Poë, G. Reuthe, R. Dean, James Walker, W. Poupart, W. T. Ware, C. Scrase Dickens, A. D. Hall, and J. R. de C. Boscawen.

Messrs. J. Veitch and Sons, Limited, Royal Exotic Nursery, King's Road, Chelsea, S.W., had a magnificent array of Tulips, among which the more conspicuously brilliant were Yellow Crown, Yellow Queen, fulgens, viridiflora (a beautiful flower when well advanced), Orient, American Lac, retroflexa, Ostrowskyana, vitellina, and Golden Eagle.

Awards of Merit were given to Messrs. Barr and Sons, Covent Garden, for Tulip Scarlet Emperor; to Miss Spurrel, Bessingham, Hanworth, Norwich, for Narcissus Agnes Harvey; and to Messrs. T. Ware, Limited, for Tulip Inglescombe Scarlet.

Messrs. R. H. Bath, Limited, The Floral Farms, Wisbech, were strongly represented by a choice collection of Tulips. Amongst those of special merit were Yellow Rose, Yellow Queen, Carminea, The Sultan, Isabella, Cramoise Brilliant, Lutea major, Mr. Farncombe Sanders, Pride of Haarlem, Macrospeila, and Vitellina. All the blooms were of good form and substance. Silver Banksian Medal.

Messrs. Hogg and Robertson, 22, Mary Street, Dublin, staged about 120 vases of Tulips, comprising most sections. Salmon King, La Candeur, General Kohler, Clara Butt (a lovely cerise), Didieri, Turenne, and Firefly were very fine. Amongst the

Darwin section Medusa, Mr. W. Roberts, Sultan, and Sir Walter Scott were good, and the double Tulips were in great form. Silver Flora Medal.

Messrs. Barr and Sons, King Street, Covent Garden, were represented by a large and exceedingly varied collection of good Tulips, all sections being represented. Flambeau, Pride of Haarlem, Perfection, Loveliness, Panorama, and Aurora were examples of the Darwin section, while the English Tulips were well shown by such flowers as Dr. Hardy, Lord Stanley, Colbert, and Aglaia, and the Parrot section by Crimson Beauty and Large Yellow. Amongst those of newer merit in vases in the centre of the stand were Cyclops, Gesneriana pallida lutea, The Fawn, Queen Alexandra, and Scarlet Emperor. Good quality predominated throughout the entire exhibit. Silver-gilt Flora Medal.

Orchid Committee.

Present: Harry J. Veitch, Esq. (in the chair); with Messrs. James O'Brien, de B. Crawshaw, H. M. Pollett, H. Ballantine, W. Cobb, Jas. Douglas, N. A. Bilney, G. F. Moore, E. Hill, H. J. Chapman, W. Boxall, W. H. Young, W. H. White, H. Little, and H. A. Tracy.

A. M. Grinsdale, Esq. (gardener, Mr. W. T. A. Hooker), Kent Lodge, Uxbridge Gardens, sent a splendid group of Odontoglossum crispum, all of them healthy plants, bearing long and well-flowered racemes. One plant had four of these, with an average of fourteen flowers on each.

R. I. Measures, Esq. (gardener, Mr. J. Smith), Cambridge Lodge, Flodden Road, Camberwell, staged a group of Cattleyas, and Norman C. Cookson, Esq. (gardener, Mr. H. J. Chapman), Oakwood, Wylam-on-Tyne, had an excellent selection of Phaius and Odontoglossums. He received two Awards of Merit.

Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford, Dorking, staged a splendid selection of Orchids, comprising a number of genera and their species and varieties, for which a Gold Medal was awarded. We noticed meritorious plants of Phalaenopsis grandiflora, Miltonia vexillaria, Cattleya callistoglossa excelsa (very large and fine), Dendrobium rhodocentrum (?) with pretty pink flowers in clusters, and Odontoglossum excellens, and many other subjects.

Messrs. J. Veitch and Sons, Limited, staged Lælia x Latona, Cattleya Schröderæ, Disa x Luna, L. c. Zephyr, Cypripedium Vipani superbum and L. c. Ascania, with purple lip and pale yellow sepals and petals—a fine group.

H. T. Pitt, Esq., Stamford Hill, S.E., had a choice mixed group, including Lælia x Latona, Cypripedium callosum Sanderæ, Cattleya intermedia Rosslyn var., C. Mendeli var, Blue Beard, and other things.

The Hon. Walter Rothschild (gardener, Mr. Hill), Tring Park, Tring, contributed a selection of Masdevallias.

Floral Committee.

Present: W. Marshall, Esq. (in the chair); with Messrs. C. T. Druery, Geo. Nicholson, Jas. Hudson, C. R. Fielder, R. M. Wallace, F. Page Roberts, H. J. Cutbush, A. Baines, Chas. E. Pearson, Chas. E. Shea, W. P. Thomson, E. H. Jenkins, Wm. J. James, C. Blick, Wm. Stowe, Chas. Dixon, Geo. Gordon, John Jennings, and Chas. Jefferies.

His Grace the Duke of Westminster, Eaton Hall, Chester (gardener, Mr. N. F. Barnes), sent a very fine and strong growing Malmaison Carnation, named Duchess of Westminster, which is described under "Awards."

Messrs. J. Cheal and Sons, Crawley, Sussex, occupied about 10yds of tabling with a large number of vases of flowering and foliage shrubs. Amongst those attracting special attention were Pyrus spectabilis fl. pl., Acer Pseudo-Platanus Nizette, Berberis stenophylla, Pyrus Malus floribunda, and P.M. Schedeckeri, &c., &c.

Messrs. T. S. Ware, Ltd., Hale Farm Nurseries, Feltham, were represented by a choice collection of hardy flowering plants, including Sarracenia purpurea, Iris fimbriata, I. Douglassi, and Primula Sieboldi Mrs. Geggie, and many other varieties.

Mr. E. Potter, Camden Nurseries, Cranbrook, Kent, sent five baskets of Spiræa chamædrifolia, Trollius europæus, and Auriculas, also a pot of the new Rose Dorothy Perkins, which also is described under "Awards."

Messrs. R. and G. Cuthbert, Southgate Nurseries, Middlesex, sent their new Malmaison Carnation Queen Alexandra, a flower of creamy white colour. The flowers were of good size.

Messrs. W. Cutbush and Son, Highgate Nurseries, sent their new bedding Pelargonium Caroline Schmidt. The foliage is green with silver margin and bronzy marking. The flowers, which are double, are of good size, and scarlet suffused with carmine.

A. K. Bully, Esq., Ness Neston, Cheshire, contributed Rehmannia glutinosa, a little plant with a flower like a Mimulus.

Messrs. B. R. Cant and Sons, The Old Rose Gardens, Colchester, were represented by a charming group of splendidly grown pot Roses. Amongst the new varieties exhibited we noticed the last year's seedling, H.P. Ben Cant (rich crimson), the seedling Tea Mrs. B. R. Cant (a lovely cerise), and this year's H.P. King Carl (rich crimson and a splendid grower). Amongst

the older and better known varieties were H. Teas Antoine Rivoire, Killarney, Teas Marie Van Houtte, Madame Hoste, and H.P. Mrs. Sharman Crawford. The group also included some very pretty specimens of Austrian Copper and yellow Briars.

Messrs. Wm. Cutbush and Son, Highgate, N., staged a large group of *Calla Elliottiana*, *Lilium longiflorum*, and *Azaleas* in variety. Amongst the latter were Double Ghent *Azaleas* Bijou de Gendbrugge, Romain de Smet, and Louis Van Houtte. This group occupied about 10yds of staging, and was relieved by the addition of Palms and other plants.

Messrs. J. James and Son, Woodside, Farnham Royal, Slough, staged about fifty plants of *Calceolarias* in 7in and 10in pots, comprising a vast field of colour. The collection, which was well grown, and the individual flowers a fine size and rich in colour, reflected great credit on this firm, and attracted a great deal of interest.

Messrs. J. Stark and Son, Great Ryburgh, Norfolk, staged a small and effective exhibit of their new bright rich yellow *Viola* Royal Sovereign. The habit is compact and good, and the plants very floriferous, and the plants must prove very useful for bedding.

Messrs. W. Paul and Son, Waltham Cross, Herts, staged a collection of pot *Roses* in standard and bush form. Amongst those of special merit were Grace Darling, Viscountess Folkestone, Solfaterre, Duchess of Albany, May Queen, and the new climbing China Rose Field Marshal (rich crimson), and the new Hybrid China Tea *Corallina* (light crimson, of good form, and very vigorous).

Mr. M. Prichard, Christchurch, Hants, staged a magnificent and very varied collection of hardy plants of great merit. Amongst the Tulips included in this group were *T. moucheiron*, *T. macrospeila*, *Gesneriana* Gala Beauty, Picotee, and Parrot Tulip Perfecta. There were also *Trollius giganteus* and *T. Orange Globe*, *Saxifraga pyramidalis*, *Camassia Leichtlini*, *Paeonies* in variety, and *Scillas*.

Mrs. John Russell, Richmond, staged a collection of stove and greenhouse foliage plants. *Pandanus Veitchi*, *Aralias* in variety, *Crotons*, *Alocasia*, *Sanderiana*, and *Dracæna* and *Caladiums*. The group was fringed by the *Caladium argyrites*.

List of Awards.

FLORAL COMMITTEE.—Silver-gilt Banksian for group of *Calceolarias* to Messrs. J. James and Son, Farnham Royal, Slough. Silver Flora for group of *Roses* in pots to B. R. Cant and Son, Colchester; for hardy flowers to Mr. M. Prichard, Christchurch, Hants. Silver Banksian for group of *Richardias* and *Liliums* to Messrs. Cutbush and Son, Highgate. Bronze Banksian for group of stove and greenhouse plants to Mr. J. Russell, Richmond, Surrey; for pot *Roses* to Messrs. W. Paul and Son, Waltham Cross, N.; for hardy flowers to T. S. Ware and Co., Limited, Feltham. Bronze Flora for group of sprays of hardy trees and shrubs to Messrs. J. Cheal and Son, Crawley, Sussex.

ORCHID COMMITTEE.—Gold Medal to Sir Trevor Lawrence, Bart. Silver Flora to Messrs. Veitch and Sons, Limited; H. T. Pitt, Esq.; Norman C. Cookson, Esq.; and the Hon. Walter Rothschild; with votes of thanks to other exhibitors.

Certificates and Awards of Merit.

Carnation, Duchess of Westminster (Mr. N. F. Barnes).—A beautiful deep rose-pink Malmaison variety with all the merits of a first-class flower. It is Clove-scented. Award of Merit. Mr. Barnes, Eaton Hall, Chester.

Cypripedium Lawrenceanum Hackbridgensis (Sir Trevor Lawrence, Bart.).—The dorsal sepal, which is the chief feature, is very large, tipped and edged white with purple ground and black veins. The petals are greenish, the pouch dark brown. Award of Merit.

Iris Barnumæ (Messrs. Ware & Co., Ltd.).—A Persian *Oncocyclus* *Iris* with large flowers, deep violet with a dash of purple. The standards are broad and incurve beautifully. Award of Merit.

Odontoglossum Adriancæ Cooksoniæ (Norman C. Cookson, Esq.).—The plant bore a raceme of eleven large flowers. These are of moderate size, white ground much spotted with deep chestnut brown. The edges of the segments are wavy. Award of Merit.

Odontoglossum crispum, var. *Lady of the Lake* (H. T. Pitt, Esq.).—The flower is rather over the medium size, with slightly fringed petals. The ground is pure white, with large dark chocolate coloured blotches. The centre of the lip is yellow. Award of Merit.

Odontoglossum Adriancæ var. *Sybil* (Capt. Holford, C.I.E.).—A very fine large variety of the type, with wavy edges, finely spotted with deep chocolate or chestnut on a yellow ground. First Class Certificate.

Odontoglossum crispum, var. *Marjorie* (R. Ashworth, Esq.).—A very distinctive flower, with stout, smooth-edged petals, spotted towards the margins with brown on a white ground. The sepals curve inward and have wavy edges; moderate in size. Award of Merit. R. Ashworth, Esq. (gardener, Mr. Ed. C. H. Pidsley), The Gardens, Ashlands, Newchurch, near Manchester.

Peach, Duke of York (Rivers & Son).—A variety that is sure to come to the front, and spoken of by experienced growers as an exceedingly good Peach. We will figure a fruit shortly. Award of Merit.

Phaius Phæbe superbus (N. C. Cookson, Esq.).—The lip is also good in this novelty, and of a deeper purple than in *P. × Ruby*. The petals

and sepals are whitish on the back and brown on the inner surface. The parentage is *Sanderianus × Humboldti*. Award of Merit.

Phaius × Ruby (Norman C. Cookson, Esq.).—One of the finest crosses and most handsome flowers yet brought forward. The lip is large and finely formed, purple in colour, with a yellow throat; the sepals and petals paler purple or brownish, and turned well up. The parentage is *Cooksoniæ × Humboldti*. Award of Merit.

Rose × Dorothy Perkins (Mr. E. Potten).—The result of a cross by hybridising *Rosa Wichuriana* with *Madame Gabriel Luizet*. The deep (very deep) cerise-coloured flowers are borne in clusters of ten to twelve, and much resemble a *Polyantha* *Rose* in this respect. The stems and foliage are slender and shiny, rather spiny of course, and take after the *Wichuriana*. The fragrance is very mild. It received an Award of Merit. Mr. E. Potten, Cranbrook, Kent.

Royal National Tulip, May 20th.

The meeting this year was held at the Drill Hall, along with the exhibition of the Royal Horticultural Society. Competition was not keen, and altogether the show was a very ordinary one. The three classes of Tulips are bizarres (yellow ground), roses ((rose on white ground), and byblœmens (purple on white ground). In each class there are flamed and feathered flowers (rectified) and breeders or selfs.

The whole show of the N.T.S. only occupied one table's length.

Class A, twelve distinct rectified Tulips.—Four entrants exhibited here, and Mr. A. D. Hall, Wye, Kent, led off, followed by Mr. C. H. Needham, Hale, Cheshire, for second; Mr. J. W. Bentley, Stakehill, Castleton, Manchester, third; and Mr. A. Chater, Cambridge, fourth. Mr. Hall's dozen were as follows: Sir Joseph Paxton, Count, Duchess of Sutherland (premier flamed), and Masterpiece in the back row; Annie McGregor, Bessie, Dr. Hardy, and Mabel in second line; and Stockport, Garibaldi, Mabel, and Chancellor in the front row. Good blooms of Coningsby, Ajax, and Jane were shown by Mr. Bentley.

Class B, for six ditto, brought four exhibitors, with larger undersized flowers. Mr. Needham led with A. McGregor, Sir J. Paxton, Magnum Bonum, Bessie, Carbuncle, and Count. Second came Mr. Hall, with good flowers of Lord Stanley and W. Parkinson. Mr. Bentley was third.

Class C, three feathered.—Five entered, Mr. G. Edom, Headley, Surrey, leading. Messrs. Hall and Needham were second and third respectively.

Class D, three flamed.—Here Mr. Hall had the best three blooms, these being Aglaia, Samuel Barlow, and Universe, all splendid. Mr. Bentley was second and Mr. Needham third.

Class E, six breeders.—Again Mr. Hall beat his opponents, who were Messrs. Bentley, Chater, Needham, and Edom, in this order. This was for six distinct breeders, two of each. Mr. Hall showed Sir Joseph Paxton, Mabel, Annie McGregor, Eliz. Pegg, Goldfinder (premier), and Hall's Seedling 2 B. (a pretty violet-magenta variety), with Dr. Hardy (flamed), and Lord Stanley (feathered); second, Mr. Bentley, with flamed and feathered forms of Sir Joseph Paxton; third, Mr. Chater, with Count (flamed) and Orion (flamed).

In Class 1, open to growers of less than 400 blooming bulbs of English Tulips, Mr. W. Peters, Cambridge, was triumphant, having Bessie, Wm. Wilson, Masterpiece, Aglaia, Sarah Headley, and an unnamed flamed byblœmen. Mr. J. Percival, Wye, was second.

In Class 2 the order of the honours was reversed, and Mr. Bentley had also a splendid bloom of Goldfinder, though not so finely shaped as Mr. Hall's.

Class F, for three breeders, gave Mr. Hall the premier place with Loveliness, Adonis, and Goldfinder; second, Mr. Needham, with Lady Grosvenor, Stone's Seedling, and Ashmole's 126; Mr. Edom was third, and Mr. Bentley fourth.

In the class for the "Samuel Barlow" prizes, for a pair of rectified Tulips, one feathered and one flamed, Mr. Hall with Percival was first. He also led in Class 3, Mr. W. C. Bull, of Ramsgate, coming second. In Class 4, for three distinct breeders, the order was: First, Mr. Percival; and second, Mr. Bull. In Class 5 Messrs. Percival, Peters, and Bull stood in this order.

Following the foregoing came the "single bloom" classes in the various sections, as feather and flamed bizarres, ditto roses, and byblœmens. We cannot hope to do more than name the first prizewinner in each section, but all of the afore-mentioned exhibitors were represented. Thus:—

Bizarres (feathered), Mr. G. Edom, with Lord F. Cavendish; (flamed), Mr. A. D. Hall with Sir J. Paxton.

Roses (feathered), Mr. C. W. Needham, with Julia Farnese; (flamed), Mr. J. Percival, with Annie McGregor.

Byblœmen (feathered), Mr. C. W. Needham, with Trip to Stockport; (flamed), Mr. Hall, with Geo. Edward.

Bizarres (breeders), Mr. Hall, with Sulphur; rose (ditto), Mr. Hall, with Annie McGregor; byblœmens (ditto), Mr. Needham, with Bridesmaid.

Premier blooms.—Single flamed bloom, Mr. A. D. Hall, with Duchess of Sutherland. Single feathered, Mr. C. W. Needham, for Trip to Stockport. Single breeder, Mr. A. D. Hall, with Goldfinder.

Croydon Gardeners.

That the members of the Croydon Horticultural Mutual Improvement Society are imbued with a praiseworthy desire to assist each other to a better and more useful knowledge of the practice of gardening has been amply demonstrated since the inauguration of the society, two years ago, many thanks to the ever-vigilant hon. secretary, Mr. Gregory. On Wednesday, May 7, they held their first exhibition of spring flowers, plants, &c., and everyone did his best to furnish a good show and make the effort a success. And it was so. No prizes were awarded. The whole effect was most excellent, and reflected the greatest credit upon the committee who so ably carried out the arrangements. Palms, Ferns, Pelargoniums, Roses, Carnations, &c., and bouquets of Carnations and Roses were exhibited by Mr. Thomas Butcher, of George Street. Staged upon the tables to the right round the room, the first group was a fine collection of Tulips in vases in the best varieties and glowing colours, exhibited by Messrs. J. R. Box and Co., Croydon. Mr. J. A. May (gardener to Wickham Noakes, Esq., Selsdon Park) showed a beautiful collection of Alpine and Show Auriculas, and some good Cinerarias. Mr. E. Kromer, Roraima Nursery, Bandon Hill, exhibited upon a space 20ft by 4ft a magnificent group of Orchids, most tastefully arranged. Mr. J. R. Box staged a most attractive and showy group of Azalea mollis, Gloxinias, and Calceolarias, &c. (the latter a fine strain); also alpine plants among rockwork. Mr. E. Mills (gardener to Frank Lloyd, Esq., the president of the society), arranged a charming collection, 18ft by 4ft, of spring flowers. Mr. W. Bentley (gardener to George Curling, Esq., Elgin House) exhibited pots of the beautiful *Alouzea illicifolia* Ferns. Mr. Roffey showed two Spiræas. Messrs. J. Cheal and Sons, Crawley, staged a collection of cut specimens. Mr. Tennant exhibited a delightful group of Palms, Spiræas, Rhododendrons, and Crotons; Mr. Jeffren (gardener to Mrs. Lascelles) two boxes of Roses; Messrs. Dupré et Cie a charming basket of Spanish Iris and White Lilac, also a vase of Carnations; Mr. F. Oxtoby (gardener to J. J. Reid, Esq., Coombe Lodge) a pretty group of Pelargoniums; and Mr. J. Dingwall (gardener to W. F. Stanley, Esq., Cumberlow, South Norwood) a group of Cineraria. One of the attractions of the show was a set of cases of the eggs of insectivorous birds, exhibited by Mr. G. F. Bunyard, the treasurer of the society. The Mayor and Mr. Frank Lloyd were amongst those present.

The Metropolitan Public Gardens Association.

OPEN SPACES.—At the monthly meeting of the Metropolitan Public Gardens Association, held at 83, Lancaster Gate, W., Sir William Vincent, Bart., vice-chairman, presiding, it was stated that the Leathersellers' Company had kindly granted £10 10s. towards the funds, and that a donation had been promised for the erection of a drinking fountain in one of the grounds laid out by the Association. In reference to the complaints which had been made as to excessive tree cutting at Burnham Beeches, to which the Association had drawn the Corporation's attention, a reply was read from that body stating that the work had been done under advice. It was considered Nature ought to be interfered with as little as possible in this unique piece of woodland, in order that its wild aspect might be preserved. A report was received as to the building of rooms and halls in certain disused burial grounds whose erection it was strongly felt ought to be contested, owing to the law which prohibits building on grounds of this character, with a view to their preservation as open spaces of utmost value to the community. Special reference was made to Holy Trinity Churchyard, Stepney, laid out by the Association in 1887 as a very effective public garden, and maintained until recently by the London County Council, but which is to a great extent being destroyed in order to provide a site for a hall. It was decided to urge the Council to take steps to test the legality of such use of this and other grounds. Progress was reported with regard to schemes for the acquisition of All Saints' Churchyard, Poplar, and the laying out of certain squares in Stepney and elsewhere. Seats were granted for a ground and other sites in Chiswick, and it was decided to take steps to secure the preservation of St. Peter's Square, Hammersmith, roadside strips in Islington, and of land formerly part of Wandsworth Common, now in the occupation of the Patriotic Commissioners, should the property be utilised for building. Attention was drawn to the grievous mutilation of a number of fine trees in St. Margaret's Churchyard, Westminster, in connection with the erection of a stand, and it was agreed to issue an appeal for the preservation of such trees as still remain there and of those that exist in other portions of the routes to be traversed by the Coronation processions.

Watercress and Flower Girls' Christian Mission.

A Floral Exhibition by members of the above is announced to be held in the Town Hall, Chiswick, from May 26 to May 31. The girls will make artificial flowers by way of entertainment.

THE BEE-KEEPER.

Foreign Queens.

By the infusion of foreign blood we have undeniably improved our natives, and eradicated the mischief resulting from consanguinity or in-breeding. Constant watchfulness, however, is necessary to keep the essential qualities in view, as hybridisation intensifies and concentrates both good and bad qualities. Too much admixture of blood should be avoided. The superiority of Carniolans and Italians for their powers of endurance, fertility, and even temper is generally admitted by all careful observers. With almost all others, it is found that some undesirable trait is not compensated by their good qualities. The former are imported from Carniola, in Austria. One of their excellent characteristics clearly distinguishes them from all others, namely, their mild disposition, smoke and veil being entirely unnecessary in handling them. These qualifications should recommend them to lady bee-keepers. They are somewhat similar to, but rather larger, than our native bees, being light brown in colour, with lighter rings on the abdomen. In the production of comb honey they excel, using little or no propolis. Their only failing is a tendency to swarm, owing to the great fertility of the queens, but this can be moderated, if not avoided, by giving plenty of room for ovipositing and closely watching the supers. Carniolans are also extremely nervous, and their susceptibility to outside influences is so marked that in the hot weather if the hive is not properly ventilated they appear almost paralysed. This peculiarity regarding outside influences makes them splendid winterers. The queens vary in colour from black to yellow, and the difference between native drones and Carniolans is almost imperceptible.

Italians or Liguriāns are natives of northern Italy. They are extremely prolific, and their most marked feature, that they work longer hours than native bees, and frequent flowers not visited by the latter. This is the only variety known to work the red Clover in this country. Ligurians are also very docile and indefatigable toilers. The basal segments of the abdomen have distinct orange coloured rings, which render these bees very attractive. As they store honey close to the surface of the cappings, their comb honey is not so beautifully white and attractive as that produced by Carniolans. There is a progressive development in hybridisation which is now considered one of the most important features of apiculture. Hybrids are produced in an exactly similar manner to new breeds of cattle. The crossing of queens reared from carefully selected eggs by drones from special stocks, is the plan employed in each case. It is by hybridising that we have been furnished with the Durham ox, the Southdown sheep, and many other examples where the intervention of man in imitating Nature has been for his own comfort and convenience. Perfection in breeding an improved strain is not necessarily restricted to foreign and native bees. Similar traits, though less pronounced, may be observed in our own.

There is, therefore, no reason whatever why anyone should not improve his stock by selecting and breeding from those which have been particularly noticeable for some good quality. The greatest benefit, however, is gained by the addition of foreign blood, or the purchase of a queen from some distant breeder is beneficial. The act of crossing alone adds greater energy. For instance, if a native queen mates with a Carniolan drone, the honey gathering powers of the workers of such a cross are far in excess of those of any pure race. Few things are more erratic than the behaviour of hybrids, and occasional results have originated the supposition that they are invariably irritable, but then what is generally supposed is not necessarily true. This is stated with no intention of criticising this assumption, otherwise than in a friendly spirit.

To properly understand the matter it is necessary to bear in mind that queens govern; constitution and disposition come from the drone, and should a queen mate with a drone from a mild dispositioned colony, the resultant cross will partake of similar qualities. By crossing and re-crossing some very valuable honey gathering strains have already been secured. There is much inequality in the health and vigour of queens just as in the constitutions of individuals of the human race. Those reared from eggs from the same mother, under apparently precisely similar conditions, will possess constitutions peculiar to themselves. Those readers who have sufficient knowledge of queens with their combinations of excellencies, and have learned to judge them, will be well aware that one individual of the same breed

may be worth ten times as much as another. In addition to increasing the vitality of the progeny of a queen, this judicious selection and perfect development of hardy and vigorous constitutions, constitutes, as may be read in most medical works, an enhanced capacity of resistance to disease causes, which in professional parlance is called immunity. With such queens there is no anxiety respecting queenless stocks in the spring, and where food is plentiful stimulation is never required. We have proved that with stimulation, and all the other devices and attentions for increasing the population, an imperfect queen in the finest hive is left far in arrear of a properly developed mother under adverse conditions. The bee-keeper, therefore, instead of leaving the renewal of his queens to chance at swarming time, should breed from his ideal colonies, and endeavour to work out for himself a standard of excellence, as the most honestly formed judgments differ.

For the guidance of those who desire to follow modern methods, the following hints will be of service until more experience has been gained:—(1) Drones and queens should come from distinct mothers. This will secure willing and early fertilisation, and the highest possible energy. (2) Queens must be reared in nothing but the most powerful colonies, and special care exercised in all manipulations as the occupants of the cells may be injured by jarring the combs or exposure to too low a temperature. (3) Do not expect too many cells. Rather concentrate the excessive feeding and attention on a few of the most perfect, which will produce full grown and vigorous mothers. (4) The best time to rear queens is when natural supplies of pollen and honey are obtainable, failing which systematic feeding must be resorted to.

It is hoped that these precautions will be helpful theoretically and practically, and will minimise the risks of disappointment. The ultimate result will, no doubt, be the possession of a far more profitable and energetic honey gathering strain. The most successful bee-keepers are cognisant of these facts, and follow a system of re-queening, and we have no hesitation in asserting that the presence of reliable queens has more influence than all the fads in hives and management.—E. E. SANDBACH.

Raised Beds for Lawns.

The little picture beneath here affords at a glance a capital idea of one of these raised lawn-beds. They can be formed on the base of an old tree-stump, being fashioned in a round shape of rough deal planks across the bottom with "rustic-bark" sides. The advantages are that trailing subjects like *Convolvulus* and the Japanese reticulated *Honeysuckle* can be arranged in beautiful festoons around the edge of "the bed," while a mixture of tall and dwarf bedding and herbaceous plants (*Trollius*, *Aquilegas*, *Cannas*, *Lobelia cardinalis*, &c.) can be planted in the centre. They have this merit, too, that they can be readily placed to fill up a blank caused by the removal of a tree or shrub.



Raised Bed on the Outskirt of a Lawn.



Fruit Forcing.

MELONS IN HOUSES.—Where the fruit is cut from the earliest plants, the old stem may be cut back to a strong shoot near its base, removing as much soil as can be picked from among the roots without injuring them, supplying rather strong lumpy loam pressed well down and giving a good watering. A moist atmosphere being maintained, and the plants syringed in the morning and about 4 p.m., they will start freely, showing fruit in much less time than by planting afresh. If, however, the plants are affected with canker, or from carrying too heavy a first crop, a deficiency of water, or attacks of insects, are much enfeebled, it is better to remove them, thoroughly cleaning the house after removing the old soil, and placing fresh, sweet compost in ridges or hillocks, planting strong plants when it has been warmed through. Early Melons are coming in, and are of excellent flavour. Plants swelling their fruit should have a night temperature of 70deg, although 65deg or even 60deg will not do any harm when the nights are unusually cold and the days bright, 70deg to 75deg being secured, admitting a little air at the latter, allowing an increase to 85deg or 90deg, and closing early, so as to maintain the latter, or even increase to 90deg or 100deg. Keep abundant moisture in houses containing young growing plants, feed plants liberally that have the fruits swelling, not allowing them to suffer through deficient supplies of water or of weak liquid manure. Gently damping the foliage, walls, floors, and closing at about 3.30 p.m. or as early as safe, will ensure the swelling of the fruits to a good size. Where the plants are showing blossoms, fertilise the pistillate flowers daily to set the fruit, ensuring a somewhat dry condition of the atmosphere, and pinching out the points of the shoots one or two joints beyond the fruit. Examine the plants frequently for the removal of superfluous growths, not allowing them to interfere with the principal foliage. Shade lightly from powerful sun, but only to prevent flagging.

MELONS IN PITS AND FRAMES.—Expose fruits in an advanced stage well to light by raising them on inverted flower pots with a piece of slate for the fruit to rest on, or the moisture arising beneath will cause it to decay. Admit air freely, and water only to prevent the foliage flagging. If a second crop is desired, encourage about four shoots from the base of each plant, so that when the fruit is cut the old growths may be removed and the young shoots substituted. These will show fruit freely on the first laterals, every alternate lateral being rubbed off to prevent overcrowding. If a top-dressing of fresh compost be given, supplemented with judicious supplies of moderately weak liquid manure at 85deg, the plants will be assisted to make a vigorous second growth. A useful crop of Melons can be obtained by making up beds now of any spent material, which, from mixing and turning, will generate a gentle warmth, placing over it frames that may have been used for Potatoes and bedding plants, a barrowload of rather strong loam mixed with a fifth of old mortar rubbish or road scrapings, if deficient of grit, being placed in and pressed down firmly in the centre of each light. Into this, when warmed, turn out a strong, healthy plant, pressing the soil compactly about the roots, and giving a good watering. If the weather be bright, shade for a few days. Seed may yet be sown to raise plants for frames at present occupied by tender bedding or other plants, but the Melons should be placed in their fruiting quarters with as little delay as possible.

PEACHES AND NECTARINES: EARLY HOUSES.—When the very early varieties, such as Alexander, Waterloo, and Early Louise Peaches, Advance and Cardinal Nectarines, have been cleared of their fruit, the wood that has borne it should be cut out to the successional growths from their base for next year's bearing, excepting those needful for extension. If the trees are too full of wood thin well, so as to admit light and air to the shoots. Early forced trees are liable to have the buds overdeveloped, or to cast them; therefore, some growers leave the old wood until a later period to retard the buds, while others shade the house from bright sun with a similar object. Covering the roof lights with a thin wash of whiting and skim milk answers perfectly, using it as soon as the blossom buds are commencing to form, or from the fruit being gathered until the latter part of August. This is a good plan where trees suffer from over-maturity of the buds, and with proper regard to watering and keeping the foliage clean is effectual. Syringing should be practised in the morning and evening, to free and keep the trees clear of red spider. The borders must be kept in a thoroughly moist condition, as it is important that the foliage be kept healthy as long

as possible. Admit abundance of air in the daytime where the fruit is ripening, and a little at night to prevent the deposition of moisture on the fruit, which is likely to induce decay at the apex, if not encourage "spot"—the fungus *Gloeosporium læticolor*—which is rather prevalent this year on Figs and Grapes, and in less degree on Peaches and Nectarines.

SUCCESSION HOUSES.—A moderate amount of artificial heat will now be necessary in order to admit a free circulation of air. Remove any leaves that shade the fruit too much, raising the fruits on thin laths placed across the trellis, so as to bring them with their apexes to the light. Attend regularly to tying in the shoots, stopping the laterals at the first joint as soon as made. Any shoots that cannot be allowed to extend without crowding or encroaching on others, stop at about 15in, exception being made of extensions. Shoots retained level with or past the fruit to attract the sap to it should be stopped to one or two joints at each break. Syringing must be practised morning and afternoon to keep red spider under, and the inside border attended to frequently with water. Admit air early in the day, and in the case of houses glazed with large panes of glass, a double thickness of herring or single pilchard netting drawn over the roof lights is beneficial on very bright and hot periods, preventing the foliage browning. A little whitewash from a fine rose syringe on the glass also diffuses the light and acts favourably, and has the advantage that the first rain washes it off, and gives the much needed light at dull periods.

LATE HOUSES.—Let there be no delay in thinning the fruit, leaving very few more, after the fruits attain the size of a Walnut, than will be required for the crop, up to which stage the thinning should be gradual, and avoid overburdening the trees. It is better to retain too few rather than too many fruits, fine examples being always appreciated, while the indifferent swelled and quality lacking are a source of complaint. There is no greater mistake than retaining more shoots than there is room for; if the wood is not properly formed, and it is not solidified as made, imperfect buds result. If aphides appear, fumigate on two or three consecutive evenings, having the foliage dry, and being careful not to give an overdose; or apply one of the advertised insecticides, carefully following the instructions. Should mildew attack the foliage or fruit, dust with flowers of sulphur, taking care to reach every part.—ST. ALBANS.

The Kitchen Garden.

OUTDOOR TOMATOES.—There is but little gained by planting out Tomatoes too soon unless the position selected for growing them is a sheltered one, where the cold, cutting winds frequently experienced late in the month have no direct access. If a little protection, however, can be given them, it is desirable until the weather is settled, and warmer nights prevail. For growing in the open garden the planting should not be done until quite the end of the month. Plants waiting for an opportunity to be inserted should not remain pot-bound, but have a shift into a larger pot, so that strong growth may be made. Small plants must be encouraged to grow strongly.

CUCUMBERS IN FRAMES.—Frames that are now being emptied of bedding plants should be filled with some good heating manure, covered with soil, and planted with Cucumbers. The plants will quickly make headway, and soon begin to fruit. The main thing is to maintain a growing temperature, which is readily done by closing up the frames early, thoroughly syringing the plants, the soil, and surroundings at the time. When only furnished with one stem nip out the points of the plants as soon as growth fairly commences, and secure the growths to the soil by hooked pegs. They will root at the joints and strengthen the plants. Further stoppings may be done when fruit shows. Occasionally give an extra dose of water to the roots. Should the manure be very hot at the time of planting, place a turf sod grass side downwards and soil heaped over this.

EARTHING POTATOES.—Potatoes are now coming freely through the ground, and may have the earth well loosened between the rows, and drawn up to the plants on each side. With the growth of the Potatoes weeds also develop, therefore, previous to earthing, Dutch hoe the soil to destroy them, doing this on a hot day for preference.

STAKING RUNNER BEANS.—Allowing the growth of Scarlet Runners to climb up long stakes is the best and most profitable way of growing them. As the plants are now coming on rapidly, or will do so as soon as warm nights prevail, the stakes should be fixed at once. A double row of Beans ought to have a double row of stakes, these being spliced together near the top.

DWARF BEANS.—Thin out the plants to at least 6in apart, or they will not receive enough air and light to flower and fruit freely. Cut down weeds and draw earth to the stems for support.

LATE CELERY SEEDLINGS.—The young seedlings from the latest sowings ought now to be pricked out on a good bed of soil, placed on a good layer of manure. Prick out sturdy seedlings 4in apart, sprinkle daily with water, and shade from sun.

PLANTING CELERY.—The earliest Celery is now represented by strong plants with abundant roots. These lift easily, and should be planted in well manured trenches, keeping moist with supplies of water as needed. If plenty of soil can be secured to the roots, shading will not be required after planting.

ONIONS.—Young Onions may be dusted freely with soot as a preventive of Onion fly and a stimulator of growth. Frequent hoeings with the Dutch hoe aid the growth, pulling out the weeds by hand from among the plants. Transplanted Tripoli Onions are now well established, and may have occasional light dressings of artificial manure applied, with liquid manure occasionally.

CHICORY, being a useful winter salad vegetable, a few rows ought to be sown now, 1ft apart. Deep and rich soil is essential for the production of good roots, but manure must be placed the bottom spit rather than near the surface.—EAST KENT.

Nature Notes.

A large number of the trees at Kew have had their tender young shoots injured by recent frosts.

In Devon and Cornwall Potatoes have been completely cut down, and more especially near Halwill and Stratton.

On Monday, May 5 5deg of frost were registered in a sheltered garden near Chelmsford, and 7deg on the following night. The frost has saved the gardener the need for thinning his fruit crops.

Potatoes above the ground during the second week of May have in many cases been injured by the frosts. Some light dry litter scattered over the tops would save them. Where Dwarf or Runner Beans have been sown too early, the plants are liable to be crippled, and it is best in such cases either to sow again or plant out some which may have been raised in boxes to provide against such contingencies.—S.

The cuckoo has only made its appearance in the lower reaches on Sunday, 18th inst. It reached the district fully a fortnight ago, but it usually remains in the hilly district some time before it makes its domain in the lower parts. The corncrake arrived a little earlier than the cuckoo, and took up its residence in the lower district two weeks ago. Both these emigrants are much later in making their appearance this season, the reason, no doubt, of their delay being due to the cold weather on this side of the border. The swallow has not yet reached us, but is expected daily. It has been reported to have been seen not far distant. The cold weather has been playing sad havoc with the bees, and feeding weaker hives at the present time is most essential. With the cold east winds prevailing, it is a most trying time for these industrial workmen. Two of the hives here have been completely lost—due to starvation. Swarming will be much later this season, and May swarms will be a luxury of the past.—R., Newton Mearns, N.B.

I was interested to read of the capture of the fly mentioned in your two last issues under "Nature Notes," as on Sunday, the 11th, I took an insect, which I expect is the *Bombylius*, and which, from its buzz and general appearance, at first sight I took for a bee, but which on closer inspection was found to differ. I send herewith the insect, and after you have examined it I should be grateful if you would return it.—E. A. BUNYARD, Maidstone.

The fly sent is no doubt a *Bombylius*. I should say *B. minor*. The abdomen has a white central line, and the wings are spotted. Of course, it is a flower-lover, not predatory. I think the larva is subterranean and a scavenger.—J. R. S. CLIFFORD.

Trade Notes.

Ransome's Lawn Mowers.

This is the title of a tiny hand list (illustrated) showing various types of mowing machines. In the introduction they say: "Ransomes, Sims, and Jefferies, Limited, have had the longest experience of any firm in the manufacture and sale of lawn mowers. The original Budding's lawn mower was made by them nearly seventy years ago. Since that time they have made many thousands of machines, and have acquired an unequalled knowledge of the varied requirements of the trade, so that they are fully prepared to supply machines for every purpose where lawn mowers are available. They have taken out numerous patents for lawn mowers, and can recommend with every confidence the machines illustrated and described as the very best that are made. They desire to draw special attention to the many improvements introduced in their celebrated gear and chain automaton mowers (given on pages 2 and 5) and the new "Empire" mower (on page 6). As a proof of their confidence in the excellence of their lawn mowers, R. S. and J. allow a month's free trial, which is the best guarantee that can be offered. All machines are sent carriage paid to the nearest railway station." Their works are at Ipswich.



* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

LETTER FOR SECRETARY OF U.H.B. AND P. SOCIETY.—We have handed this letter to Mr. Collins, whose address is 9, Martindale Road, Balham, London.

AUCUBA BERRIES (H. H. B.).—Your old Aucuba did not produce berries because it was a female plant; so soon as you planted a male plant near, fertility became a matter of course. No Aucuba berries were produced in this country until Mr. Fortune brought the male plant from Japan a few years since.

BOOKS WANTED (Reader).—Edmond's Elementary Botany, about 2s. 6d. or 3s.; or Botany, by R. S. Wishart, M.A. (Self Educator Series), 2s. 6d., Hodder and Stoughton. Hooker's Primer of Botany, 1s. net are both serviceable. A good book on "Wild Flowers" is Bentham and Hooker's "British Flora," unillustrated, about 10s. 6d. We believe an illustrated supplement has been issued to go with this edition, which is published by Reeves and Co. Or you could have John's "Flowers of the Field," 5s. 6d., which is a good and useful book.

BLACKENED ACHIMENES CORMS (G. S.).—The corms have turned black by the attack of some fungus, apparently that of *Peziza vesiculata*, which is so common as a saprophyte on old manure heaps and richly manured soil, and has probably been introduced in your case along with manure or leaf mould. The blackened portions will affect the growth from the corms, perhaps some of them not pushing growths, but those pushing will soon become strong once they have formed roots and are potted rather deeply, so as to further root emission from the joints. It would be well to insert the growths as cuttings, and thus avoid infection of the new corms from old ones.

BEST LATE APPLE FOR PROFITABLE CULTURE (A. P.).—It is quite impossible for anyone to state which they consider to be the best late Apple to plant for market, because that which is best for the purpose in one district is not so in another, varieties vary so much. If, however, you have unmistakeable evidence that Cox's Orange Pippin succeeds in your district, by all means plant it more largely than any other. Ribston Pippin should also be tried, for although the great reason why it is not largely planted is that it often suffers badly from canker, yet I know many instances in which perfectly healthy trees have been established. Neither of these varieties can, however, be termed really late ones, as they are generally over by the end of January. They always sell well, however, because of their high quality. Good late dessert kinds are the following:—Court Pendu Plat, Sturmer Pippin, Fearn's Pippin, and Bow Hill Pippin. In the case of late cooking varieties, I strongly recommend the following:—Newton Wonder, Lane's Prince Albert, Wellington, Bramley's Seedling, Alfriston, Barnack Beauty, and Annie Elizabeth.—H. D.

FLOWERS FOR BUTTONHOLES (A Beginner).—Amongst forced flowers—Lily of the Valley, Pinks, Tree Carnations, Bouvardias, *Spiræa japonica*, and Roses are suitable; also Gardenias, Ericas, Epacris, Heliotropes, *Luculia gratissima*, *Rogiera gratissima*, *Burchellia capensis*, *Clerodendron Balfouri*, *Eranthemum pulchellum*, *Eucharis amazonica*, *Euphorbia jacquiniæflora*, *E. splendens*, *Hoya carnosa*, *H. bella*, *Ixora acuminata*, *I. javanica floribunda*, *I. amabilis*, *Jasminum gracile*, *J. Sambac flore-pleno*, *Pancratium fragrans*, *Pentas kermesina*, *Rondeletia speciosa major*, *Stephanotis floribunda*, *Tabernaemontana coronaria flore-pleno*; the last are stove plants. The following greenhouse plants are useful:—*Adenandra fragrans*, *Bouvardia* aforementioned, *Camellias*, *Citrus (Orange)*, *Cyclamen persicum*, *Daphne indica alba* and *rubra*, *Dracophyllum gracile*, *Habrothamnus aurantiacum*, *H. fascicularis*, *Jasminum grandiflorum*, *Lantana vars.*, *Mandevilla suaveolens*, *Myrtles*, *Pergularia odoratissima*, *Pelargoniums*, especially the double-flowered, *Pimelea decussata*, *P. spectabilis rosea*, *Plumbago capensis*, *Polygala oppositifolia*, *Polygala Dalmaisiana*, *Primula cortusoides amœna* and *vars. alba, grandiflora*; *Rhododendron fragrantissima*, *Jasminiflorum*, *Prince of Wales*; and *Princess Royal*, *Rhynchospermum jasminoides*, *Statice profusa*, double *Primula sinensis*, the double varieties of *Azalea*. There are also Roman Hyacinths, Narcissus, Tuberose, and Violets. There is no work on "forcing flowers."

TASMANIAN CORRESPONDENCE (H. F. R.).—Received with thanks; we shall use the notes immediately.

TROUBLE WITH APPLE TREES (S. W.).—For full answer see the article entitled "Apple Scab Fungus," in this issue.

BEDDING PLANTS IN STONY SOIL (F. H.).—By all means remove the stones, which if left in the soil will cause endless trouble; if so stony as to need riddling you will do well to add some good loam, or manure liberally, as in such a soil, upon gravel, the plants will hardly grow too vigorously. The process you propose following will answer for the flower beds and lawn, but we should have the depth of soil for the grass over rather than under 1ft.

MUSHROOM BED (A Subscriber).—Make the bed of fresh horse droppings, and not a "little firm" but very hard, the firmer the better, and about a foot deep. We like the droppings better when they have a small quantity of short litter, but this is not material for so small a bed. The droppings ought not to be wet, but be kept under cover. In about a week the heat will be at its highest; spawn it when it is reduced to 75deg at 2in deep, and at this depth put in the spawn, pieces about 1½in to 2in square, and 9in apart, and cover-up, beating firmly. In about a week you may earth the bed 2in thick of good loam, and beat very firm. In six weeks you may expect Mushrooms to appear, but during that time the bed is not to be watered, or not until they show, and then keep only just moist and regularly so. If they do not appear at the six weeks' end you may commence watering, but lightly at all times, yet keep moist, the extreme either way will destroy them.

NAMES OF PLANTS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (G. A.).—A form of *Dendrobium Wardianum*. (J. F. S.).—1, *Epimedium rubrum*; 2, *Muscari conicum*; 3, *Tulipa macrospeila*; 4, *Arabis alpina fl-pl.*; 5, *Ornithogalum nutans*, a plant with beautiful flowers but difficult to extirpate from a garden when once established. (J. T.).—They are all varieties of Darwin Tulips, but we cannot name them; send to a grower. (Forty Years' Subscriber).—*Cratægus mollis*.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick, height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1902.										
May.										
Sunday ...11	N.W.	deg. 45.9	deg. 39.9	deg. 53.3	deg. 39.5	Ins. 0.04	deg. 48.3	deg. 48.4	deg. 48.4	deg. 32.8
Monday ...12	S.W.	45.9	44.9	54.1	42.8	0.10	49.0	48.8	48.5	37.0
Tuesday ...13	N.N.W.	46.9	41.2	48.7	32.8	0.01	48.3	48.9	48.5	23.3
Wed'sday 14	W.S.W.	48.1	42.1	49.1	30.0	0.08	47.5	48.9	48.6	22.6
Thursday 15	W.S.W.	43.4	41.4	55.6	33.3	0.02	47.3	48.5	48.6	27.3
Friday ...16	W.N.W.	52.4	47.7	55.7	43.0	0.12	49.0	48.5	48.5	41.3
Saturday 17	W.	54.2	48.5	57.1	48.0	0.45	50.0	49.0	48.5	45.2
MEANS ...		48.1	43.7	53.4	38.5	Total. 0.82	48.5	48.7	48.5	32.8

A week of dull, cold, showery weather, with sharp ground frosts on three mornings.

Trade Catalogues Received.

H. Cannell & Sons, Swanley, Kent.—*Illustrated and Complete Floral Guide.*

E. P. Dixon & Sons, Hull.—*New and Choice Plants.*

Wm. Paul & Son, Waltham Cross, Herts.—*Roses for Spring Planting.*

Publications Received.

"Hints on Planting Roses," by a Committee of the National Rose Society. Third edition, with revised lists of choice Roses. 1902. National Rose Society's Annual Report.

Kerner's "Natural History of Plants."

Part I. of the new and cheaper edition of this invaluable work has reached us from Messrs. Blackie and Son, Limited, London. It is hoped to complete the issue in sixteen monthly parts, each at 1s. 6d.



Permanent Pastures.

Our idea of a pleasant state of existence is country life, with occupation. No life is, or can be, full without work of some sort, mental or physical, and we hold that physical work is a necessity, let the mental be what it may, or what you like to make it. People find the country dull and same. Looked at in the right way, there is neither dullness nor sameness about it. There is, terrible dullness in row after row of dull town tenements, and the roar and turmoil of a toiling, sweating populace, and oh! the sadness of it all, the sordidness, the greediness, and the hateful lust for wealth and fame! It makes the heart bleed. The face of the country is as changing as the hour, and she responds so quickly to all influences of sun and air. The people, too, being fewer, are more easily approached, and an intimate knowledge of the villagers even of a small hamlet will quite dispel all dullness. But to be happy in the country the mind must be attuned, and no one who is not a lover of nature can ever hope to settle. An educated man finds the country a mine of gold, and we think it is this education that makes so many of our clergy happy and useful. Given a moderate income, and active habits, a parson may in the country fully attend to the spiritual needs of his people, and yet find time for the cultivation of many a pleasant hobby.

We do not need to cite instances. Many well-known names will instantly occur to the reader, beginning with White, of Selborne, and ending with our chaplain. Many of these men have sprung from the landed interest, have been bound up in rural life from their birth, and possibly have an intimate knowledge of many things agricultural. What naturalists and botanists these men make, for they can take up these pursuits while shepherding their scattered flocks! We have the pleasure of knowing a man of this description, a man fairly steeped in all that appertains to plant life, and he, with the interests of his neighbours at heart, has been able to counsel and advise to very good purpose. When a man spends every minute he can spare from his legitimate work to study the growth and habits of the plant life in his (very wide) district, he must know pretty well what plants predominate, and how to adjust, by judicious sowing, whole areas to make them most productive. Nature is very ready with her limits; man is often very blind to see her most obvious teachings.

Whether this small duty on imported Wheat will do much to send up the prices of English we can hardly say. The price is rising now, but that is because practically there is no Wheat in the country. But there will always be men who are ready to convert arable into pasture food if possible; stock raising does pay fairly well. These men do not know much, if anything, of plant lore themselves, so they naturally think it wisest and best to state their requirements to the nearest seedsman, and then accept and sow the mixture he advises. No doubt the seedsman does his best; he is honest and withal anxious to secure a customer; but what of his knowledge? Has he the faintest smattering of botany (we are speaking of local men, not the great firms)? He knows certain grasses are good, and so he compounds a mixture often very disproportionate—disproportionate because, though good in itself, it does not meet the land half way. Can we explain ourselves better? Some of the seeds, being of a common, hardy sort (though not very valuable in the formation of pasture), will grow away at such a rate as to completely overwhelm those of a better but shyer growth; seeds that would so thoroughly make good the whole piece that they ought to have every encouragement. Then, again, it is well to see that the seeds sown are pure; not only free from adulteration, but also free from defective or abortive specimens. Cheap seeds, like everything, generally turn out to be both nasty and dear.

Our parson is of opinion that land, as a rule, prefers not to grow good grass. At any rate, we can see how quickly

land will revert to "rubbish" if left to its own devices. He finds a bit of fault with ordinary grass mixtures on the ground that there is generally too great a variety, and also far too much Clover. Keep back some of the best and most delicate seeds for a time, till the soil is better able to grow them. Clover, good as it is, is not all in all, and it sometimes proves too much for sheep and beasts. Clover is not so early as some of our grasses, is more liable to disease, and forms a fine food, much appreciated by the woodpigeon. Rather than so much Clover, try a greater proportion of Perennial Rye, Meadow Fescue, Timothy, and rough and smooth Meadow Grass. The seed bed must be perfectly clean, and the best seed bed is found among growing Wheat. Wheat, being autumn sown, the land has had a chance to consolidate, and a harrowing, perhaps repeated, will make the fine tilth. The Wheat crop this year must not be considered; it is only standing to act the part of a foster mother. After the harrow should come a Crosskill's roller, then half the seed mixture should be sown broadcast, then the ground rolled again, crossways, then the second half of the seeds may be sown.

Grass sown with spring corn does not do well, as the ground is too light and friable, and the seed is apt to get buried too deep. Wheat, too, makes the best cover for the young seed plant, and is not so apt to get "laid" as either Oats or Barley. When the Wheat is cut, care should be taken to leave the stubble as long as possible, for the little plants need quite as much shelter from winter frosts as they did from summer drought. If from any cause there are places in the plot where the seed has missed, or where it is too thin, a man should be sent with bag and rake to attend to these places, as soon as ever there is a chance that the seed will germinate. Nothing looks worse than a patchy piece, and if proper seed is not sown, be sure by some means or another improper plants will soon fill up the gaps. It is not to be expected that the protecting Wheat crop will be a heavy one; probably too much will have been harrowed out in the spring; but if quantity be lacking, quality will be good, and, after all, it was the permanent pasture that was the crop in view, the Wheat simply serving as good cover.

Work on the Home Farm.

A small breadth of Swedes for early bullock feeding has been sown, but it is somewhat more of a lottery than farming matters usually are, whether it is a success or not. If the crop does well it is invariably a very large and valuable one, for there is nothing like a well matured Swede to produce good beef for Christmas. There is one thing in favour of trying a few early ones. The result of the experiment is generally decided in time to reoccupy the ground with common Turnips. As it is much too cold for general Turnip sowing, all available hands are weeding the corn. The thinly planted Wheat must be kept clean, and Thistles are rather plentiful in the Barley and Oat fields. There are some complaints of Barley grubbing away, but, as a rule, it looks very well, and is standing the cold frosty winds as well as, or better, than the Wheat.

Potatoes which have been harrowed and not earthed up again are showing regularly in the rows, but are in danger from frost, although we are nearing the end of May. They are best kept out of sight yet awhile, for, although it is invisible, progressive growth is being made. If it were not for the danger of frost, we should like to be seeing them up in rows, so that the horsehoe may go over them. There is rather more green sod between the rows this year than we like to see. It must be broken up and killed before the Potatoes are earthed up, or we shall find it growing out of the ridges and competing with the crop.

Lambs are still doing well. We should like to get the ewes washed and clipped, but the weather is too cold. Many cows are calving, and there is a great demand for the calves for rearing purposes. Farmers are inquiring for them in all directions. The rise in the price of meat has quickly had its effect in stimulating the rearing of young cattle. We have always advocated this industry as a paying one, and one to be followed by all farmers who grow hay and straw. The profit is the most certain and stable of any except the breeding of sheep.

Sows are being gradually weaned from their offspring, and are being again put to the boar. With good luck they will have weaned other litters by Martinmas, and may then be fed off before killing time is over. Pigs are as dear as ever, but pork is a little easier. A great many people are now breeding, so perhaps the inevitable reaction is not far off. Newly weaned pigs must be well fed, and must have skim milk if possible. At all costs they must be kept in a thriving condition. The least drawback means loss of time and of profit.

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NEW BEDDING LOBELIA

"Mrs. Clibran."

WITHOUT exception, this is the finest Bedding Lobelia yet raised. We introduced it last season for the first time, and were much gratified with the appreciation and praise with which it was received, fully confirming the opinions we had previously formed of it.

It is an ideal variety, possessing all the qualifications essential to a Bedding Lobelia of the highest class. It is

DEEP BLUE IN COLOUR

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These three essentials are combined in this variety in such a manner as to make it without an equal.

Many Bedding Lobelias now in commerce, after having been planted a little time, become of a straggling habit, and present an unsightly appearance; with "Mrs. Clibran" this never occurs, the plant remains of a close and compact habit, and is covered with deep blue flowers, possessing a small white eye, until the end of the season.

We have the greatest pleasure in giving this variety our heartiest recommendation, as we are fully assured that it will be a success.

Mr. W. E. Gumbleton writes:—"Your Lobelia, 'Mrs. Clibran,' pleased me very much last summer; it flowered so profusely I could get no cuttings for propagation.

Price 5/- per Dozen.

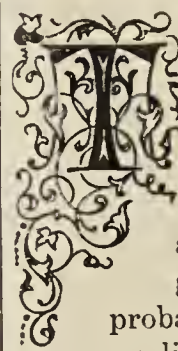
Altrincham & Manchester



Journal of Horticulture.

THURSDAY, MAY 29, 1902.

On Fruit.



THE great object being to keep fruit as long as possible, and at the least cost, it is worth while to inquire not only how keeping qualities may be retained and increased after the fruit is grown, but into the known and probable conditions in which those qualities have their origin, and how they are imparted to the fruit during its growth. If there be any conditions of climate or soil, or both, which give to standard fruits the power of resisting decay for a longer period, or in which the same variety of fruit derives a firmer texture, finer appearance, or larger size, either or all together, they should be generally and fully understood.

Fruit growing, like all other agricultural or horticultural pursuits, thrives best in certain geographical areas; in other words, it is not capable of equal development in all parts of the country. There are special adaptations of fruits to soils. According to the general experience of fruit growers, a clay loam or strong soil, having a dry or porous subsoil, is the most favourable to good quality in both the Apple and the Pear. There are, however, distinct preferences of soil among different varieties of Pears. The Apple has the most generalised adaptabilities to soils, and this is closely followed by the domestic Plum.

The soil of some of the best Pear orchards in the country will be found to be heavy, frequently of a red grey colour, resting upon old red sandstone many feet in thickness. Trees growing on light sandy loam, although they may bear well for a time, cannot mature a full crop of fruit for long, being usually poorly supplied with roots; and if they had plenty of roots there would be but little material in the soil, either to furnish a durable supply of nutriment, or from which the fruit

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READERS are requested to send notices of Gardening Appointments or Notes of Horticultural Interest, intimations of Meetings, Queries, and all Articles for Publication, officially to "THE EDITOR" at 12, Mitre Court Chambers, Fleet Street, London, E.C., and to no other person and to no other address.

trees can derive that support and firm connection characteristic of those growing in strong soils.

General observation attests the fact that well-grown or perfect fruit keeps the best. Under-grown specimens of almost any variety of Apple or Pear are usually the first to be affected by rot or other agencies of decay. These are generally imperfect in form, and, consequently, in organisation, which renders them more susceptible to the causes of decay than well-grown perfect fruit. That perfect fruit does best resist decay is the strongest argument that can be made to show the necessity of allowing only as much fruit on the tree as can be fully matured. It is evident that an equal or given quantity of the elements of fruit formed into two or three hundred Apples or Pears of full size is, in such a number, far more economically organised than if formed into four or five hundred fruits of the same sorts. There is no work in connection with fruit-growing that pays better than thinning. It not only results in a much finer product, but it is also a means of destroying the insect-infested and diseased specimens, and of saving the energies and vitality of the tree.

Growth as Distinguished from Ripening.

Growth consists of increase of substance, either in regard to size or density, or both. The state of maturity has been sometimes confounded with ripeness, which is not a growing but a declining stage in the existence of fruit. The conditions of growing and ripening combine to form an apex or summit, as it were, to which growth ascends, and where the descending plane of ripening begins. The term ripe is employed to indicate not complete growth, or any condition of it, but an advanced and mellow state; in fact, an eatable condition.

Effects of Ripening Fruits on the Tree.

No colouring or other organic matter enters the fruit after it is full grown. This seems to be so obvious that a very brief consideration of the subject must lead to the admission of the statement as a self-evident truth. What results, then, it may be asked, can be attained by leaving fruit on the trees after it ceases to grow, whether it be full or undersized? The only advantage possible is the mellowing of the fruit, so that it may be more palatable. But fruit becomes mellow more rapidly when put into boxes or drawers in the fruit house than when left on the tree. This fact supplies an illustration of the truth that after fruit is ripe disorganisation is accelerated by a very slight increase of heat. This result is at once explained by the fact that the temperature about the fruit in the drawers is higher than that surrounding it on the trees, and this accelerates its ripening. If the fruit were placed in a lower temperature the ripening would be retarded. Experiments made for the purpose of investigating this matter show that heat is the chief cause of ripening fruit. Heat breaks up the starch granules of fruit left to ripen on the tree, and this process mellows it both by evaporating portions of its water content, and by weakening the adhesion of the tissues of the fruit.

The Nature of Mellowing and Ripening.

Decay commences in the same conditions in which growth ceases, but so slowly at first as to be almost imperceptible. There is no state of absolute rest in growth or decay of fruit, or between them. From the time the fruit attains its full size it is subject to incipient decay, and this influence is identical with the causes leading to a mellow or ripe condition; it is, indeed, the earlier part of the ripening process. The effect of baking fruits, as illustrative of the influence of heat, consists in this changed colour and loosened condition of texture, their appearance in general being similar to that of rotten fruit before it is broken. Indeed, but for the fact of certain desirable flavouring and other elements being retained in the baked fruit, probably because its albumen has not had time to escape, the process of baking might be designated as quick rotting, from the disorganising force of a sudden increase of temperature.

Apples, Pears, and some varieties of small fruits, may be kept fresh by the cooling influence of ice in ice-houses or refrigerators. But this cold storage of fruit is really a business by itself, and requires a great deal of care and skill to carry it through successfully. Experience has proved that equable and dry conditions of the atmosphere are the best for keeping fruit, and particularly staple fruits like Apples and Pears. If cellars, fruit-rooms, and other places

used for keeping fruit, could have the air in them maintained in a dry and cool state, either by natural or artificial agencies, the probabilities of success would be greatly increased. A room which is well-fitted for the keeping of butter in warm weather, may also be used to advantage for fruit.

The practice of ripening fruit on the tree may be correct as to fruit required for early marketing or for current use in the early part of the season, but does not appear to be satisfactory for keeping it in the finest condition for the longest period. A more even temperature than that about the trees, or, at least, one that is certainly no warmer, is necessary for this purpose, for reasons before mentioned.—J. J. WILLIS.

(To be continued.)

Polyanthuses at Forde Abbey, Chard.

For some weeks past probably millions of these useful border plants have adorned the gardens of the wealthy, as well as the more humble home of the cottager, throughout Great Britain. It is not less interesting to find that among growers of these humble flowers there are some endowed with a passion for improvement, and the acquisition of a home selected strain of high standard. A recent and brief visit to Chard brought me in touch with such an one, and both the man and his environment proved a source of interesting information and pleasure. Mr. J. Crook, gardener at Forde Abbey, belongs to the old school, which embraces the only true type of florist, and his ideals in the matter of florists' flowers are such that many, many years are needed ere they are within his limit. For a space of some eighteen years Mr. Crook has been selecting the Polyanthus, so as to procure a strain diversified, yet selected to colour, with perfect habit in plant and truss, and with flowers bold and effective. There are two purposes, it may be said, for which they are required. From a commercial point of view the more important is the grouping of colours for flower garden purposes in spring; the other in mixtures of endless colours for the border, where the connoisseur may find quiet studies in searching for his ideals.

At Forde Abbey the narrow borders devoted to fruit trees, both in the open and under walls, mostly of east and north aspects, because these are the better adapted for them, hundreds of these spring flowers were at the time of my visit in full bloom. It did not need but a brief inspection to discover the high place they held in Mr. Crook's hands; groups of plants of selected colours which had been lifted from the borders were standing here and there in rigid isolation, so that there should be no mistakes or confusion in seed saving. Among these, of course, were the best, and very fine they were, both individually and collectively. Such types of white, yellow, sulphur, orange, red, and crimson shades I had not previously seen. These and other shades, numbering at least fifteen distinct selections, have already been under close scrutiny for some length of time. Whether the time is within reasonable reach when such a fine strain will be procurable for general culture is a question as yet without an answer. To lovers of Polyanthuses, however, such an acquisition would be a boon should it come within the range of possibility. Seeds of these rigid selections are sown in August, not in the open, but in boxes and pans, and protected through the winter in cold frames, from which, as the spring advances, they are permanently planted in every available spot suited to them. While one surveys the great variety and intrinsic beauty of those already in bloom, thoughts are carried forward in prospect of the probable advances awaiting the next spring time. In some it seems scarcely possible to imagine that further improvement is practicable. To satisfy the florist's standard, the foliage must be ample, yet neat, and compact; the truss stand erect, and carry the individual pip stiffly, so that rain does not disturb their balance. At Forde Abbey these attributes are markedly visible, even to the casual observer. Feminine fancies are often keenly aroused in the quiet bronzes, terracottas, buffs, and kindred hues, groups of which are interesting, even more than when mixed with others less subdued. Beside these which come under the annual course of cultivation, there are quantities that for years have been naturalised

in the grounds in the grass, at the margins of shrubbery borders, the wild and rock-gardens, affording an aspect of happiness and quiet charm.

Mr. Crook's seed growing propensities are not confined to Polyanthus alone, for Primulas, Cinerarias, Gloxinias, and other plants all share some patronage in their season. His sympathies as a florist do not find solace in the newer stellated types of either Primulas or Cinerarias, and his opinion is that the day will yet return when these starry flowers will give place in popular favour to the truer types. Rigid selection and close breeding involve the keenest interest and anxiety when, as so often happens, the seed productive powers of these high-class and choice strains are so low. Quite a history is attached to some of the seed-bearing plants now in hand, and sterility, the bane of the higher bred, is in contemplation feared. Mr. Crook is endowed with a wonderful memory, a gift which to the florist is of so much value and importance, especially in dealing with stocks of early origin.

I have thus far dealt with the gardener at Forde Abbey as an ardent florist; he is scarcely less enthusiastic as a fruit, kitchen, or landscape gardener. The grounds of Forde are very beautiful, interesting, and varied, though they are not so extensive as the character of the landscape would imply. Within the past few years interesting points have been opened up, and fresh features added, in the removal of some, and cutting down of other common shrubs. Bulbs naturalised in the grass have been a fine feature for weeks past. The choice of situation for this phase of flower gardening has been so well studied that it does not interfere with the lawn views when the grass which of necessity has to go unmown for some weeks into the summer. On the margins of the shrubbery borders bulbs in quantity and variety find congenial places, sunshine and shade in the alternative positions maintaining a long season of flowers for cutting and floral effects.

The Abbey, itself a noble building, and one of the best preserved of early monasteries, is surrounded by beautiful and extensive landscape pictures, and from almost every window fresh features are brought within range. A former custom of allowing the public access to the gardens has been discontinued, on account of the delicate health of the present owner.—W. S.

Florists and Floriculture over Fifty Years.

Mr. Richard Dean detailed his experience of floriculture and the florists of the past fifty years at a meeting of the Battersea Chrysanthemum Society held in Stormont Hall recently. He looked upon the period from 1830 to 1870 as the Golden Age of Floriculture. In 1851 the National Floricultural Society was formed. This arose out of the great uneasiness that prevailed in London floricultural circles as to the awards made to new flowers. From 1830 to 1850 George Glenny was at the height of his popularity. Unfortunately, George Glenny was a narrow-minded, bad tempered man, and it was felt that so long as he was leader of floriculture in London the awards would be given not so much to the flowers on their merits as to certain favoured owners who chanced to bring them forward.

National Floricultural Society.

The National Floricultural Society was composed of all the most prominent florists of that time; and of course George Glenny furiously assailed it. A Mr. Foster, of Windsor, was president, and he was famous as a raiser of some splendid Pelargoniums, mostly possessed of shades of red. Charles Fellowes, of Shottesham; Dr. Lindley, "the director of the Royal Horticultural Society," and Robert Marnock, then superintendent of Regent's Park, were the vice-presidents, and amongst names of committee-men may be mentioned those of the two Hendersons, Backhouse, E. S. Dodwell, Chas. Turner, John and Charles Lee (two famous brothers, whose nursery in Hammersmith was where Olympia now stands); with William Paul (the only member of the N.F.S. still living), Thos. Rivers, and J. Salter. There were thirty-nine members of committee in all.

Thirty censors were appointed to adjudicate on the new flowers, and altogether there were nearly 200 members. It was a powerful organisation, and carried on a successful course till 1859, when the Floral Committee of the Royal Horticultural Society was formed. The British Pomological Society became established in 1854 by the exertions of the late Editor of this Journal, namely, Dr. Robert Hogg, a fact which Mr. Dean omitted

to mention, but gave due credit to Sir Joseph Paxton (president), Mr. Spencer, of Bowood, Thos. Rivers, and T. Ingram. Through the initiative of the originator of the British Pomological Society it became transformed into the existing Fruit and Vegetable Committee of the Royal Horticultural Society.

Coming to a consideration of florists' flowers, the lecturer mentioned Auriculas. The Alpine type was scarcely known then, though the old Conspicua was grown, and may still be seen. This was the period when those superb Show varieties George Lightbody, Robert Headley, and Shottesham Hero were raised.

Calceolarias were then going through a period of transition. They were tall, lanky, and leggy. Major, of Leeds, and Constantine, of Uxbridge, were the principal raisers of those days. Varieties were named, and propagated by cuttings. At the Royal Horticultural Society's Show and that of the Royal Botanic Society in Regent's Park, London, specimen Calceolarias were exhibited measuring 4ft in height and of great breadth as well. The shrubby type then came into being, and Mr. James, of Farnham, fertilised the herbaceous forms with the newer and dwarfer section, obtaining as a result the better shaped plants, of which our present day plants are modified examples.

Carnations, Cinerarias, Cyclamens.

Carnations and Picotees were improved in the hands of Mr. Morgan May, of Reading. He chose for the names of all his Carnations the appellatives of Shakespeare's male characters, and for his Picotees (which were thought frailer and finer) the feminine names from the same author's dramas. Norman, of Woolwich, and, later, E. S. Dodwell, near Clapham, both distinguished themselves. The laced Pink was then very popular, but is much neglected now, except for show purposes in the North.

From 1851 onwards, for the next few years, the Cineraria was undergoing transition. The plants were then very much like the starry or stellate Cinerarias of these days, but under the florists' care the corollas became rounded, smooth, and enlarged. They all had a dark disc, and grey discs were considered faulty. A light-edged flower with a grey disc loses half its effect. Messrs. Cannell and Sons are working on Cineraria cruenta, and are getting back to that perfection achieved by our forefathers.

Cyclamen latifolium (*C. persicum*) was beginning to be grown in the early fifties as a florists' flower. Division of the corms was the invariable practice, and the risk of a number of small pieces surviving had to be encountered. No one dreamed of seed propagation, and, indeed, the corms were planted out of doors to be roasted and "ripened" in sunny borders. This is one of the plants whose progress has been progressive and is still maintained.

Daffodils, Fuchsias, Gloxinias.

The Daffodil has undergone an enormous transformation. Mr. R. Dean was engaged in the wholesale seed trade in the early sixties, and at that time the only sorts of Narcissi imported were those then known as Sulphur Maid and Trumpet Major. Shortly afterwards, however, Peter Barr awoke to the possibilities of the genus, and set to work, with what results everybody knows.

The aim among growers of the Fuchsia was to get a variety with white sepals, and the first of this nature to be seen originated with a Mr. Storrey, in 1855, and was named Queen Victoria. Most of the older varieties had a bluish or purple corolla and red sepals. Mr. Turner, of Slough, introduced some meritorious novelties.

Gloxinias have been improved within the ken of the present generation. Twenty or thirty years ago they possessed flat and drooping flowers. The first erect flowering sort with tubular, round-mouthed blooms was raised by Mr. J. Fife, a Scotsman, in 1854. Mr. Garton, then of Sion House, took up this new form and raised many good sorts.

Hollyhocks.

In the sixties and early seventies the Hollyhock was at its greatest perfection. But then came that terrible disease which enormously reduced the stocks, and since then the flower has scarcely reached back to full favour. Mr. Dean recalled his own first experience with the disease. He was then at Slough, where a very large number were grown. They were as healthy and sturdy looking on the evening of a certain day, but appeared on the following morning as though a firebrand had been run through and among them. The English Pansy was affected in the same manner. The chief growers of the handsome Hollyhocks were Adam Paul, father of the present Mr. William Paul, of Waltham Cross; Roper, Wm. Chater, and Ed. Hawke (father of Lord Hawke, of the Yorkshire County Eleven). These men grew Hollyhocks against each other, and made their greatest effort at the Bishops Auckland (Durham) show. Many, or all, of the spikes were shown with 4ft of the stems literally roped with beautifully coloured, symmetrical flowers.

(To be continued.)

NOTES & NOTICES

Yorkshire Gala.

The forty-fourth Gala will be celebrated on Wednesday, Thursday, and Friday, the 11th, 12th, and 13th of June, at York. The object is, of course, to encourage a love for floriculture, to increase the prosperity of the City of York, and to aid the funds of the York charities.

Primula sinensis The Duchess.

Through inexplicable inadvertence on the part of the writer of the note on page 449 referring to the above named Primula, the name of Messrs. Sutton and Sons, Reading, as the raisers of it, was omitted. The photograph from which our illustration was prepared came from the same firm.

A Seed Testing Inquiry.

At a recent meeting of the directors of the Highland and Agricultural Society a committee was appointed for the purpose of conferring with a similar committee appointed by the Royal Agricultural Society for the purpose of considering the possibility of providing better arrangements for the testing of farm seeds.

Gardeners' Education.

After waiting several weeks, "Domestic Working Gardener" has written a long piece in which he comments on my article on "Gardeners' Education," which appeared on page 203. He is, of course, quite welcome to do this, and by the publication of different opinions education will be advanced; but he has omitted one important point. If he refers to the end of my communication he will find my name and address, and it is only fair that he should also sign his communication in the same way. If he will kindly supply this omission I will reply to his note.—W. H. DIVERS, Belvoir Castle Gardens, Grantham.

Liverpool Weather.

Winters of greater severity we have often had, but one more complicated than that through which we have just passed would be difficult to name. Hail, rain, frost, and sleet have all been greatly in evidence, and little have the earlier sown crops benefited unless in sheltered positions. Formby Asparagus, noted everywhere, has only been half a crop, and lacking the rich juicy flavour so much appreciated. Broccoli has in several places been bad in colour and texture, and spring Cabbages only about half their size as yet. Pears, Cherries, and Plums bloomed early, and it is well for those who used artificial polination in such a season as this. Apples are now in full bloom, making quite a gay picture, the beauties of which we are at all events likely to realise to the full, but of the fruits in general I shall speak again. Still the weather keeps cold and the ground damp and sodden.—R. P. R.

Edinburgh Coronation Fete and Floral Gala.

Under the patronage and auspices of the Edinburgh and Mid-Lothian Home-Workers' Industrial Exhibition a grand Coronation Fête and Floral Gala has been arranged to be held at Murrayfield, to the west of Edinburgh, from June 23 to 28. Mr. A. T. Hutchinson, the organising secretary, of No. 7, St. Andrew Street, Edinburgh, has sent a schedule, in which we find various sections. The first of these is devoted to horticultural products, and embraces from class 1 to class 141. Collections of Roses will form a leading feature, and indeed class 1 is for a collection of pot Roses, though no dimensions as to space are furnished in the schedule. This may have been intentional, and perhaps is best where originality is to count. Three prizes are offered, the first being the sum of £5, second £3, and third £2. For a group of plants on a square not exceeding 18ft, five guineas is set aside for the first prize, and three guineas and one guinea for the next two prizes. *All articles must be correctly and legibly named.* Orchid classes and many for table decorations, hand-baskets, and bouquets are provided. The first ten classes are open to all; then comes the gardeners' and amateurs' section. Only two classes are devoted to fruit—Strawberries in both cases—and a large number of vegetable classes are arranged for. Working men and amateurs have sections specially suited and restricted to themselves. All entries close on June 14. We trust the fête and gala will prove as successful as it deserves to be.

Dundee Coronation Trees.

The Coronation Committee of Dundee Town Council recently visited Dudhope Park for the purpose of selecting the sites for two trees to be planted in commemoration of the Coronation.

Immigration to Canada.

Little taxes and great liberty. Twenty-two million acres of choice land still awaiting cultivation. Room for six million more people. These are some of the headings to articles which were published in a special immigration supplement of the "Winnipeg Morning Telegram" newspaper on March 13. The history of Manitoba—the Prairie Province of Canada, is traced, and every phase of the resources of that rich part of the Dominion is described, and suggestions given as to their great development. Climate, soil, drainage, water, timber—all are discussed.

New Bedding Lobelia Mrs. Clibran.

It gives us exceptional pleasure to be enabled to bring forward to the notice of growers the claims of a rich deep blue flowered bedding Lobelia with a white eye, which Messrs. Clibran and Son, Oldfield Nurseries, Altrincham, have raised, and a plant of which has been sent to us. The sturdy little plant, in a 3in pot, arrived in perfect condition, displaying a mass of flowers and sturdy habit. We describe the colour as "rich, deep blue," but there is a dash of royal purple too, and the flowers have a velvety appearance which intensifies the harmony and effect. What a splendid edging plant to bed of Flower of Spring bedding Pelargonium, with its white variegated foliage and scarlet flowers! It is certainly an ideal bedding Lobelia of the highest class, and as the plants are potted, they are now ready for placing in their summer quarters. Lobelia Mrs. Clibran is the result of a cross that the firm effected a few years ago.

Hull Fruit Trade and Railway Companies.

Some time ago, as we mentioned in these columns, the members of the Hull Fruit Traders' Association brought under the notice of the Board of Agriculture a series of complaints as to unfair treatment on the part of the railway and shipping companies. They specially referred to the charges on the carriage of fruit from Hull to inland towns, as compared with the charges upon fruit consigned from ports of shipment through Hull, and they complained of an alleged attempt on the part of the railway companies to ignore their responsibility for delay on perishable goods. The Board of Agriculture has not ignored the appeal. On Saturday, May 24, Mr. E. Haggarth Brown (Mr. Hanbury's secretary) met a deputation of traders at Hull, and held a conference lasting over two hours. Exception was taken to the alleged "throttling" of the Aire and Calder Navigation by the railway companies, and it was argued by several speakers that the action of the companies was destroying cheap canal transit, and putting Manchester, for instance, in the position of an unfair competitor to Hull. Mr. Brown promised to lay the views of the fruit traders before the President of the Board.

National Fruit Growers' Federation.

The promoters of this organisation are making an appeal to all who are interested in fruit and fruit tree culture in this country. To give a support to the objects sought to be secured by the promoters an influential provisional committee was formed some time ago to frame a constitution and draw up rules; and at a recent meeting held at the Westminster Palace Hotel, at which Colonel Long, M.P. for the Evesham district, presided, the following objects were set forth:—"The obtaining from railway companies fair rates for the conveyance and quicker transit for fruit; the abolition of preferential rates, and the giving of facilities for the introduction of foreign produce; to urge the distinct labelling of jams made from home-grown fruit; and the collection and diffusion of information useful to fruit growers." The question of railway test cases involving points of law, was postponed, pending the obtaining of a legal opinion. One matter felt to be a great grievance by those who manufacture jams from home-grown fruit appears to be that foreign fruit partly prepared for jam is sent over to this country in the form of pulp in large quantities, and the conversion into jam finished here and then sold as of home manufacture. The headquarters of the Federation are in London. Colonel Long, M.P., who rendered so much help by championing in Parliament the Market Gardeners' Compensation Act, is the first president, and Mr. A. T. Matthews, Eaton Rise, Ealing, is the secretary. Already a large measure of support is forthcoming to the Federation.

The Temple Show.

Following the most unseasonable May month that has been recorded for many years, the great annual exhibition of the Royal Horticultural Society in the Inner Temple Gardens, Thames Embankment, London, is yet as magnificent as hitherto, and the first day, at all events, was bathed in summer sunshine.

Orchids.

The usual large contributors of these magnificent flowering plants were forward in the large tent, and a splendid exhibition was presented.

Messrs. B. S. Williams and Son, Upper Holloway, London, N., contributed some well-flowered Cattleyas—*C. Mossiæ*, a number of the plants bearing from eight to a dozen large and deeply coloured flowers, *C. Skinneri*, *C. Warneri*, *Calanthe Veitchi*, flowering late, *Lælio-Cattleya cinnabarosa*, and *Cypripedium Lebaudyanum*—a new and rare thing—and a splendid plant of *Cymbidium Lowianum*. The pretty *Aërides virens* was also present, and a number of *Vanda suavis*, *Odontoglossum Uro-Skinneri*, &c.

Mr. Cowan, of Gateacre, Liverpool, had a choice group, including *Cypripedium Charles Richman*, a wonderfully rich purple hybrid. *Oncidium Gardnerianum* is a most telling species, and was well staged, together with extraordinarily fine *Cattleya Mossiæ* in large pans.

Messrs. Linden, of Brussels, were forward with their beautiful *Odontoglossum crispums*, of which they had some plants with flowers of spotless whiteness and large in size. Mr. Jules Hye de Crom, of Ghent, had *Odontoglossum Wilckeanum Imperatorium*, with large and richly brown marked flowers.

W. P. Burkinshaw, Esq. (gardener, Mr. Hull), The West Hill, Hessle, had a group, much too flat, and included, however, a capital piece of *Cypripedium Rothschildianum*, *C. Boxalli atratum*, and a large number of good *Cattleyas*, *Odontoglossums*, and other subjects.

Mr. J. Cypher, Exotic Nurseries, Cheltenham, covered over 30ft of tabling with a grand representation of the different popular sorts. He staged some splendid *Odontoglossums* and *Oncidium Marshallianum* in fine form. His *Miltonia vexillariums* were deeply coloured and robust, while among other bright subjects were *Masdevallia Veitchiana*, *Epidendrum vitellinum majus*, *Lælia purpurata*, *Cattleya Mendeli Painted Lady*, *C. Mossiæ*, and *Lælia grandis*.

Mr. John Robson, Bowdon Nurseries, Altrincham, set up a small but choice and varied group, whilst Messrs. A. Janssens and G. Putzeys, Merxem, Antwerp, had some gorgeously spotted *Odontoglossum crispums*, which lack of space prevents our referring to in detail.

Sir T. Lawrence, Bart., of Dorking, contributed a group whose numerous rarities would draw the special attention of botanists and extreme specialists, comprising as it did, sweet little forms of *Cirrhopetalums*, *Ornithocephalus*, *Habenarias*, *Zygopetalums*, *Masdevallias*, &c., &c.

M. A. A. Peeters, Brussels, had some handsomely spotted *Odontoglossums*. Messrs. Hugh Low and Co., Enfield, contributed in their usual select form, showing the white *Odontoglossum Roezli*, also *Lælia purpurata bellissima*, bearing nine huge flowers, and *C. Skinneri*, a literal mass of trusses. Their *C. Mossiæ memoriæ Dr. Smee*, and *C. M. Reineckiana* were greatly admired.

Capt. J. F. Laycock, D.S.O., Wiston Hall, Bawtry, Notts, sent well-grown plants of the yet rare *Cypripedium callosum Sanderæ*.

One of the grandest (indeed wonderful) groups under this section was that set up by Messrs. Charlesworth and Co., of Heaton, Bradford. The plants were of the highest quality, profusely flowered, and represented great variety.

Messrs. Sander and Sons, St. Albans, were strongly to the front with many rare species, varieties, and hybrids, and furnished one of the best groups on view.

Messrs. Stanley, Ashton, and Co., Southgate, N., effectively arranged a superb display, including *Cattleya Mossiæ Aurora*, *C. M. Wagneri*, *C. gigas Sanderiana*, *C. g. delicata*, *Odontoglossum Ruckerianum*, *Oncidium sarcodes*, and a varied assortment of other things.

J. Rutherford, Esq., M.P., Beardwood, Blackburn, effectively disposed his splendidly flowered *Cattleya Mossiæ* in a rising mass, dispersed with *Asparagus Sprengeri*; and Sir F. Wigan, Bart., East Sheen, contributed *Odontoglossum Rolfeæ* (good), *Cattleya intermedia nivea*, and *C. Skinneri alba*, *Aërides Fieldingi*, *Lælio-Cattleya Highburyensis*, *L.-C. Rex* (very handsome), and many such-like meritorious plants. His group of the finer *Cypripediums* was very creditable.

Jeremiah Colman, Esq., Gatton Park, Reigate, had *Miltonia vexillaria* well flowered, and some robust *Odontoglossums*.

M. C. Vuylsteke, Loochristy, near Ghent, had his famous coloured *O. crispums*, which attracted considerable attention.

M. Fl. Claes, Orchid grower and importer, 63, Rue des Champs, Etterbeek, Brussels, whose speciality is *Odontoglossum crispum*, on this occasion set up a tasty group of natural hybrids of this species, and of these we would name *O. c. Mabel Claes* (very beautiful, with reddish-brown marks), *O. c. Esquiri*, *O. c. aureum-Etterbeekense*, and *O. Adrianæ* was likewise represented by some good varieties.

Roses.

Messrs. W. Paul and Son, Waltham Cross, occupied their old position in the large tent with a charming arrangement of pot Roses, which made a handsome display. The plants were lightly disposed, so that the individual plants could be well seen, while the front was composed of baskets of bloom and the orthodox boxes. The pillar Roses were especially noticeable, being just in the pink of condition, *Crimson Rambler*, *Leuchtstern*, *Claire Jacquier*, *Evergreen Gem*, and *Alberic Barbier* being especially bright. Good plants were *Spencer*, *Madame Montet*, *Madame Lacharme*, *Clio*, *Bridesmaid*, and *Aurora*. The boxes contained good show specimens of *Antoine Rivoire*, *Madame Cusin*, *Spencer*, *Mrs. J. Laing*, *Tennyson*, and *Boadicea*. Altogether one of the best displays Messrs. Paul have ever made.

Mr. Charles Turner, the grower from Slough, was allotted the end of the tent, which was filled with pot Roses, flanked with Carnations, and backed with Palms and Bamboos. Two large arches of *Crimson Rambler* were most effective, while the same variety was also very prominent throughout the group. Good plants were to be seen of *Niphetos*, *Maman Cochet*, *Juno*, *La France*, and *Souvenir de Madame E. Verdier*.

Messrs. Paul and Son, Cheshunt, excelled themselves in the matter of arrangement, which was rendered easy by the type of plants employed, which were mostly pillar and standard forms. The most notable varieties were *Lady Battersea*, *Madame de Watteville*, *Liberty in grand form*, *Caroline Testout*, *Madame Jules Grolez*, *Crimson Rambler*, *Tea Rambler*, *Maréchal Niel*, and *Madam Berkeley*. The dwarf pot plants formed a capital groundwork.

Messrs. F. Cant and Co., Colchester, confined themselves to an exhibit of cut Roses, chiefly of the exhibition type, though there were several good bunches of garden varieties. Boxes of *Maréchal Niel* were excellent. *Lady Roberts* was simply delightful. Other conspicuous flowers were *A. K. Williams*, *Niphetos*, *Lady Mary Fitzwilliam*, *Captain Hayward*, *Mrs. J. Laing*, *Bridesmaid*, *Ulrich Brunner*, and *White Maman Cochet*. The best garden Roses were *Petit Constant*, *Austrian Copper*, *Sunrise*, and *W. A. Richardson*.

Mr. George Mount, Canterbury, staged six boxes of cut blooms in his best style, with bunches of blooms in foliage 2ft long, the back being composed of *Crimson Ramblers* and variegated *Acers* in pots. The best were undoubtedly *Captain Hayward*, *Maman Cochet*, *Mrs. J. Laing*, *Ulrich Brunner*, and *Maréchal Niel*.

Messrs. B. Cant and Sons, Colchester, exhibited a group of Roses, chiefly in small pots, with a few standards to lighten the exhibit. *Marie Van Houtte*, *Mrs. Sharman Crawford*, *Ulrich Brunner*, *La France*, *Perle des Jardins*, and *Madame Hoste* were amongst the best.

Ferns, Cacti, and Insectivorous Plants.

An imposing group of Ferns were tastefully arranged by Messrs. J. Hill and Son, Barrowfield Nurseries, Lower Edmonton, the edging being formed with curicus, or tinted, forms, while the rest of the exhibit was made up of choice specimens, such as *Polypodium vacciniifolium*, *Asplenium inaequale*, *Pteris scaberula*, *Lomaria L'Herminieri*, and *Polypodium lingua corymbiferum*. From Mr. L. J. Ching, Crescent Nurseries, Enfield, came a small but choice collection of Ferns, containing specimens of *Davallia epiphylla*, *Dicksonia antarctica*, *Asplenium nidus*, and *Pteris Childsi*. After the gorgeous groups of flowers these were most refreshing. A large case of Filmy Ferns came from Messrs. J. Backhouse and Son, York, which were well arranged with pieces of sandstone and moss. Quite a novel exhibit.

A fine collection of insectivorous plants and Filmy Ferns came from Mr. A. J. A. Bruce, Chorlton-cum-Hardy, the *Sarracenias* being especially attractive. Some of the best plants were *Sarracenia Patersoni*, *S. flava maxima*, *S. Mooreana*, *S. Sanderiana*, *S. Atkinsoni*, *S. Farnhami*, *S. Fieldesi*, *S. Courtsi*, *S. purpurea*, and *S. Flambeau* were particularly well coloured. *Darlingtonias*, *Drosera capensis*, and the *Venus' Fly Trap* were in excellent condition. A very interesting exhibit to those who make a hobby of these plants.

Cacti, as represented by the *Phyllocacti*, were splendidly staged by Messrs. James Veitch and Sons, Limited, Chelsea. The plants were well arranged with a bed of *Maidenhair Ferns*. Some of the hybrids were especially fine, such as *Hecla*, *Niobe*, *Vesta*, *Adonis*, a charming pink; *La Belle*, bright yellow; *Ena*, *Nerida*, *Marsus*, *Virginalis*, and *Plato*. Messrs. H. Cannell and Sons, Swanley, made one of their well known collections of Cacti, the plants being in perfect health, and the quaintness of the group made it particularly interesting to the visitors.

Plants and Groups.

The season was evidently not too late for Capt. Holford's gardener to present a group of his renowned *Hippeastrums*, which were as varied and as fine this season as any he has exhibited previously.

Messrs. Ware, Limited, of Feltham, again created very considerable interest with their selections of double and single-flowered tuberous *Begonias*. On the whole, however, they were less excellent than the varieties staged last year—that is, they were not so large, but good otherwise.

Messrs. B. R. Davis and Sons, Yeovil Nurseries, Somerset, had *Begonias* also, and their singles were indeed very large and superb. The size, colour, form and habit were all of the highest standard. Their double Lord Hopetoun (rosy pink) was admirable, and Davis' Duplex type possess superb æsthetic qualities. They showed a number of named sorts.

Leopold de Rothschild, Esq. (gardener, Mr. J. Jennings), of Ascot, delighted the visitors with the beauty of *Malmaison* Carnations, whose fragrance was wafted through all the tent. Messrs. Kelway and Son, of Langport, of *Pæony* fame, again laid an assortment before the visitors on this occasion, but as they were set in single vases on the ground, their wonderful grace was much lessened. Their Tree *Pæony* Alexandra, a virgin white, of great size and elegance, was one of the finest.

Mr. H. B. May, of Upper Edmonton, staged a useful selection of Zonal *Pelargoniums*, nearly all of them double flowered; and Mr. John R. Box, of West Wickham and Croydon, had an exquisite choice in single and double tuberous *Begonias*, which he grows exceedingly well.

Pantia Ralli, Esq. (gardener, Mr. G. Hunt), Ashted Park, Epsom, contributed creditable *Caladiums*, though mostly of the darker coloured varieties, and Sander and Sons had nicely fruited Oranges in 7in and 8in pots. From H. Cannell and Sons, Swanley, came double *Begonias*, all of them of high merit.

Messrs. W. Cutbush and Sons, Highgate, occupied their old position in the large tent, and made a conspicuous display of Carnations, grown in pots, chief of which were Mrs. Herbert Cutbush, Artemus, Henry James, Fanny Wilcox, Cardinal Wolsey, Lord Roberts, and Mrs. de Salge. A fine group of *Calla Elliottiana* was conspicuous, as was also *Clematis* Nellie Moser, while *Wistarias* as standards gave a pleasing effect. The background was composed of huge Palms, Bamboos, *Spiræas*, and a pretty alcove of *Moutan* *Pæonies*.

Messrs. R. Smith and Co., Worcester, arranged a display of specimen *Clematises*, *Crimson Rambler* Roses, and *Weigela* Eva Rathke. The best of the *Clematises* were Countess of Lovelace, Madame Van Houtte, *C. purpurea elegans*, Lady Caroline Neville, and Lucie Lemoine.

A magnificent group of foliage and flowering plants came from Messrs. Jas. Veitch and Sons, Limited. Not only were the various plants well grown but arranged most effectively without any undue crowding. The *Crotons* and *Caladiums* were excellent, as were good plants of *Tillandsia fenestralis* and *T. tessellata*. Choice specimens of *Aralia elegantissima*, *Caryota Alberti*, and *Nepenthes* were used as dot plants, while a small group of Orchids occupied the centre.

Messrs. Fisher, Son, and Sibray, Limited, Handsworth, provided a fine exhibit of hybrid *Rhododendrons*, with a few standard variegated *Ivies*. Pink Pearl, Blandyanum, Sigismund Rucker, Prometheus, and Kate Waterer were very pretty.

For a gorgeous display very few plants could equal the groups of Cannas from Messrs. H. Cannell and Sons. The blooms were not only large, but the flower heads were simply enormous. To enumerate a few will give no adequate idea of their grandeur. Miss Alice Brunner, Duke Ernst, Black Prince, Duchess of York, Duke of Marlborough, and Elizabeth Hess were particularly good. A grand exhibit.

Messrs. R. and G. Cuthbert, Southgate, made hardy Azaleas their chief exhibit, and a great display they made, too; there was nothing of the usual bank about them, for the plants were of various sizes and the standards employed had a grand effect. Possibly the finest exhibit of hardy Azaleas ever seen at the Temple Show.

Hybrid *Rhododendrons* from Messrs. John Waterer and Sons, Limited, Bagshot, were a pleasing feature of the large tent. Beautiful specimens of Pink Pearl, Frederick Waterer, Princess Mary of Cambridge, Mum, and Mrs. E. C. Stirling were noted, while the few tall Bamboos and *Acers* employed made a capital foil to the masses of colour.

Messrs. Geo. Jackman and Son, Woking, contributed a group of specimen *Clematises*, in which were fine examples of the *Coccinea* hybrids, Duchess of Albany, Countess of Onslow, Admiration, and the Duchess of York. *Ville de Lyon*, King Edward VII., Belle of Woking, Nellie Moser, and Lady Caroline Neville were also well represented.

From Messrs. Veitch and Sons, Limited, Chelsea, came an enormous group of choice hardy shrubs, which were most effective. Standard Lilacs, *Wistarias*, *Weigelas*, and *Magnolias*, associated with *Eremuruses*, *Azaleas*, *Hydrangeas*, and White Broom were placed on a groundwork of choice *Acers*. Azaleas, *Philadelphus*

erectus, *Andromeda speciosa cassinefolia*, and variegated *Ivies* made a display that would be difficult to surpass.

A huge bank of *Caladiums* came from Messrs. J. Peed and Son, West Norwood. The plants were large, well developed, and of perfect colouring. A few of the best were Rio de Janeiro, *Fastuosum*, Mrs. Harry Veitch, Racine, W. E. Gladstone, Raymond Lemoine, and Leonard Bause. A well grown group.

Messrs. Balchin and Sons, Hassocks, Hove, and Brighton, set a capital example, for their group was composed of the choicest decorative plants only, and included *Richardia Elliottiana*, *Aphelexis humilis*, *Erica Cavendishi*, *E. propendens*, *Posoqueria longiflora*, *Darwinia tulipifera*, *Leschenaultia triloba major* (blue), and other subjects, all well grown. Mr. J. Pilse, Park Road Nursery, Acton, staged *Carnation* Queen Alexandra, a sport from Uriah Pike, of a peculiar washed-out rose-pink hue, but very fragrant, free, and useful.

Mr. W. Icton, of Putney, staged splendid Lily of the Valley, with flowers of great length. A. Meyers, Esq. (gardener, Mr. J. Buss), West Hill Lodge, Epsom, had *Calceolarias* of very creditable quality.

Messrs. Carter and Co., of High Holborn, staged their Emperor *Petunias* (single) and double forms as well. Their seedling Carnations, *Calceolarias*, and *Cinerarias* were each good, and attracted general attention.

From Red Lodge Nursery, Southampton, Messrs. W. H. Rogers and Son contributed a group of cut flowering sprays, including *Daphne cneorum major*, *Rhododendron* Geo. Hardy, *Staphylea colchica*, Lilac Madame Lemoine, *Andromeda formosa*, and *Prunus Padus*.

Messrs. Storrie and Storrie, nurserymen, Dundee, contributed a selection of their remarkably fine *Primroses*, *Polyanthuses*, and *Auriculas*. They had also their new Albino Borecole, a very beautiful plant if it maintains its whiteness.

Shrewsbury was represented by Messrs. Jones and Sons, who always stage Sweet Peas to perfection. They had a good selection, but the heat told against them.

Messrs. R. H. Bath, Limited, The Floral Farms, Wisbech, were forward with Tulips, very fresh and attractive for so late in the year. Here was Pride of Haarlem, Bouton d'Or, Mattia, Clara Butt, Queen of Roses, Golden Crown, Parisienne la Merveille, Perfecta, May Queen, Flambeau and a host of others.

Messrs. Dobbie and Co., Rothesay, set up better Pansies perhaps than they have ever exhibited, which is saying much. Their varieties, Mrs. Taylor, Tom Walters, Lord Dunraven, Mrs. A. B. Douglas, Trilby, R. C. Allan, John Myles, D. G. McKay, among others were choice. They also arranged beautiful *Violas* in glasses, each variety forming a spray, and backed by black velvet.

Messrs. W. and J. Brown, Stamford, Peterborough, Grantham, contributed bedding *Pelargoniums*, King Edward (crimson, and free flowering); Firebrand, and their wonderful new *Heliotrope*, Lord Roberts, with enormous heads of bloom, and sweet-scented. *Petunias* and other flowers were shown.

Messrs. Ware were strong in hardy flowers, having in their select group showy masses of *Embothrium coccineum*, *Polemonium himalaicum*, *Ramondias* in variety, and numerous fine *Saxifragas*, *Asters*, *Ourisia coccinea*, *Gaillardia grandiflora*, *Incarvillea Delavayi*, and other subjects. The group was extensive and rich in variety.

Messrs. Hugh Low and Co., Bush Hill Park, London, N., had an astonishingly meritorious exhibition of Carnations, including among *Malmaison* Princess of Wales, Churchwarden, Princess May, Nautilus (blush), Lord Rosebery, Triomphe de Expositions, and others. The plants were all of high quality. *Schizanthus wisetonensis*, as might have been expected, furnished a brilliant show.

The Hon. A. H. T. de Montmorency, The Grange, Carrickmines, co. Dublin, staged a stand of English florists' Tulips, which naturally found admirers. Messrs. B. S. Williams and Son staged bunches of Tulips, occupying 30ft of tabling. Picotee was here well shown, and Bouton d'Or, Golden Beauty, La Merveille, Mrs. Moon, Golden Crown, and others of the most popular and best. They also had *Gladioli* Blushing Bride, Spanish Irises, &c.

Mr. R. C. Notcutt, Woodbridge, contributed all sorts of Tulips, including a large number of rectified English Tulips, the whole being arranged with long stalks gracefully.

Messrs. Cutbush and Son, Highgate, N., were forward with Tulips *moralis*, *præcox viridiflora*, Grand Maître, *Gesneriana lutea*, Picotee, *Macrospeila*, Shandon Bells, and the lovely pink Gretchin. They had also *Gladioli* and some hardy flowers. Messrs. Jackman and Son, of Woking, contributed a group of choice hardy Alpine plants.

Mr. H. J. Jones, Ryecroft, Lewisham, S.E., staged single and double tuberous *Begonias*, among which we noted May Manser, Eclipse, Walter Smith, Alpha, and Mrs. T. Lunt among singles, each very fine; and he also staged Tulips, Irises, and St. Bridget Anemones. The hybrid Ivy-leaved Zonal *Pelargonium* Achievement, with cerise flowers, was much admired.

(Continued on page 478.)

Royal Horticultural Society: An Historical Sketch.



THE present period is an interesting one in the history of the Royal Horticultural Society. It is a period of great prosperity and of wonderful activity. The Society's influence is visibly penetrating the provinces and parishes of the three sister kingdoms, and we have been surprised and pleased on many occasions recently to discover Fellows of the Royal Horticultural Society in places whose positions could not in the least have brought them into direct touch with the Society or its management.

The Royal Horticultural Society was established in 1804, and measures were adopted in the spring of the present year whereby the Centenary in 1904 may be celebrated in a manner worthy of the Mother Society of English Horticulture. This Journal, in common with its class contemporaries, did its utmost to engage

Formation of the Society.

No complete or exhaustive history of this great Society has ever been issued, though its records contain such material as would thrill the lovers of gardens and horticulture in its best application, were they prescribed by an educated and literary judgment. Miss Amherst devoted two or three full pages to the Society's accomplishments in her splendid "History of Gardening in England"; and Sir Trevor Lawrence, Bart., the President, has just issued a tiny brochure entitled, "A Short Historical Sketch of the Royal Horticultural Society," to which we are indebted for the greater part of our present notes. The first president was the Earl of Dartmoor, a John Wedgwood the first treasurer, and Cleeve, the first secretary. The latter was soon superseded by R. A. Salisbury. Price, clerk to the Linnean



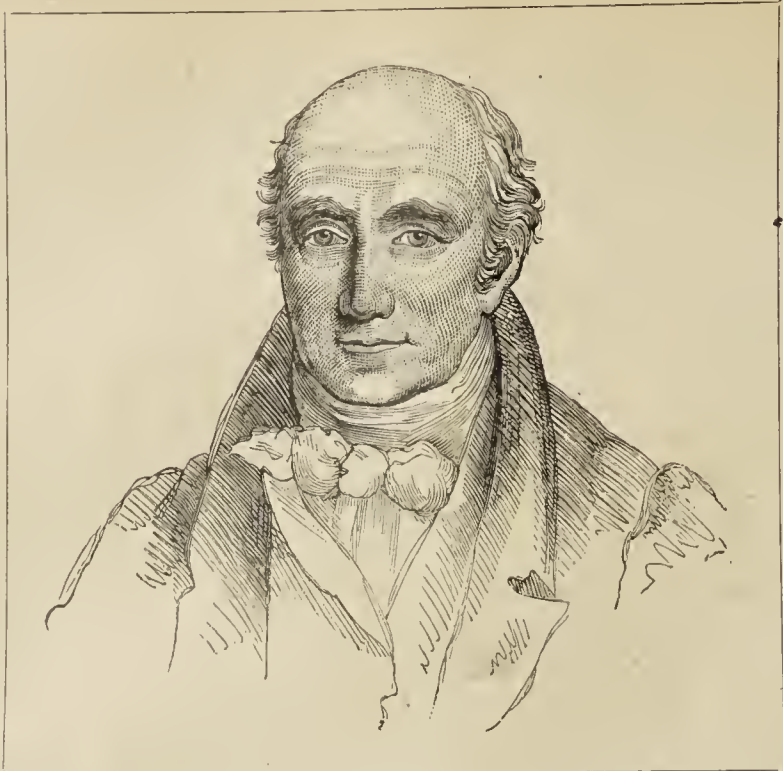
Scene at a Show of the Society in 1849, at Chiswick.

the attention of the public in regard to the proposals for a Centenary Celebration, which has been discussed, and furthermore pleaded on behalf of what was denominated the Metropolitan Hall scheme. How satisfactory and commendable this proposal to build in London a great hall and offices for the Society was, has been overwhelmingly demonstrated at the special general meeting held on March 21.

The Society in these later days is indebted for its popularity, its advertisement, and its success, almost entirely to the frequent exhibitions and annual conferences, and secondly to the issue of an invaluable Journal of the transactions of the Society, and the secretarial vigilance. In the early days of the Royal Horticultural Society, before the exhibitions had become a feature of the yearly programme, the Society's greatest work and usefulness centralised at and radiated from the experimental garden at Chiswick. This has now altered. "All is change, woe or weal." When, in a few years, a powerful and consolidated Fellowship have accomplished the magnificent task now lying before them, a new garden, fruitful in possibilities, will be assured, from the best of all reasons, that it is a necessity.

Society, was engaged as clerk to the new Horticultural; but the most valuable worker and chief instigator in the formation of the Society was Thomas Andrew Knight, F.R.S., whose name is associated with the Horticultural Society during a long course of years, and ever regarded, says Sir Trevor Lawrence, "with the highest honour by all connected with it." He then proceeds: "Mr. Knight, whose name and virtues are commemorated by the Knightian Medal of the Society, had devoted much attention to scientific horticulture and vegetable physiology, on which subjects he had communicated several papers to the Royal Society. He lived in Herefordshire, in the midst of a cider and perry country, and had been struck by the unskilful and unscientific management of the surrounding orchards. The idea of founding a society to bring together British horticulturists occurred to him in 1804. He put himself into communication with Sir Joseph Banks, P.R.S.,* and others; the result being that on March 7, 1804, the

* Sir Joseph Banks, Bart., was President of the Royal Society for forty-one years. He died in 1820. A new edition of his Journals, during his voyage with Captain Cook, has lately been published, edited by Sir Joseph Hooker.



Thomas Andrew Knight, F.R.S.
President of the R.H.S. from 1811-1838.

new Society was founded. Its objects were defined to be 'to collect every information respecting the culture and treatment of all plants and trees, as well culinary as ornamental'; 'to foster and encourage every branch of horticulture, and all the arts connected with it'; and 'to give premiums for improvements in horticulture whenever it shall be judged expedient to do so.' In the first paper of the 'Transactions' of the new society Mr. Knight says: 'The establishment of a national society for the improvement of horticulture has long been wanted; and if such an institution meet with a degree of support proportionate to the importance of its object, if it proceeds with cautious circumspection to publish well-ascertained facts only, to detect the errors of ignorance, and expose the misrepresentations of fraud, the advantages which the public may ultimately derive from the establishment will probably exceed the most sanguine hopes of its founders.' It is interesting to note that, much as London has changed during the nineteenth century, the meeting at which the Horticultural Society was founded took place on the premises of Messrs. Hatchard, booksellers, 187, Piccadilly, a firm which still occupies the same premises.

'The Society commenced work at once, and vol. i. of its 'Transactions' contains numerous interesting and practical papers read before it in 1805 and subsequent years, among them being contributions by Sir Joseph Banks, President of the Royal Society, on 'The Introduction of the Potato into the United Kingdom,' 'The Management of Strawberries,' 'The Forcing-houses of the Romans,' &c.; by Mr. Knight, F.R.S., on 'Producing New and Early Fruits,' 'New and Early Potatoes,' 'Grafting,' 'Training Fruit Trees,' 'Forcing Grapes,' 'Management of the Onion,' &c.; by Mr. Salisbury, F.R.S., on the 'Cultivation of the Tuberose,' 'The Dahlia and its Cultivation,' 'The Cultivation of Rare Plants,' &c.

Royal Charter Granted.

'In 1809 a Royal Charter of Incorporation was granted to the Society, whose object is therein briefly described to be 'the improvement of horticulture in all its branches, ornamental as well as useful.' The Earl of Dartmouth, as stated, was nominated first president, Charles Greville treasurer, and Richard Anthony Salisbury as secretary; the Council comprising, among others, Earl Powis, the Bishop of Winchester, Sir Joseph Banks, P.R.S., W. T. Aiton, gardener to the King, and author of the 'Hortus Kewensis,' and T. A. Knight. In 1812 volume i. of the 'Transactions,' previously referred to, was published, though the Society had as yet no local habitation, sharing with the Linnean Society such accommodation as it could offer in Gerard Street, Soho, at a rent of twenty-five guineas. In 1811, on the death of the Earl of Dartmouth, Thomas Andrew Knight, Esq., the founder of the Society, was elected president—a post he occupied for twenty-seven years, to the signal advantage of the Society, and of horticulture generally. Meanwhile the number of Fellows had increased but slowly, and the claims of the Society to the support of all interested in gardens and gardening were hardly recognised. But in 1816 the first bye-laws were passed, and the affairs of the Society ordered on a business-like footing—practical steps leading to such a rapid increase of prosperity that in 1818 the income was £1,791, the expenditure £1,719, and there were surplus assets valued at £4,400.

Experimental Garden at Kensington.

'In 1818 and the following years an experimental garden was established at Kensington, with a nursery at Ealing; and permanent offices were acquired by the purchase of No. 21, Regent Street, at a cost of £4,200. About this time the annual subscription, which had originally been £2 2s., was raised to £3 3s., a rise which seemed rather to encourage than to check elections, 845 new Fellows having joined the Society in 1819-21. In 1822 the gardens of the Society were moved from Kensington and Ealing to Chiswick, where a thirty years' lease of thirty-three acres had been obtained from the Duke of Devonshire, the lease being renewed in 1852 for a like period. The gardens of the Society [which are briefly described hereafter] have continued at Chiswick ever since, but their area has been reduced from thirty-three acres to twelve.

Importation of New Plants.

'A valuable feature of the Society's work—one which has had a great and enduring influence on British horticulture—may well be referred to here. As early as 1818 it was recognised that, funds permitting, a horticultural society could not do better than take steps to obtain from countries beyond the borders of Europe valuable and interesting trees, shrubs, plants, and seeds. The earliest arrivals came from China, through an active and energetic Fellow of the Society, Mr. John Reeves; and from India, through the East India Company. In this way many valuable ornamental plants were introduced into Great Britain, such as Azaleas, Pæonies, Roses, Camellias, Chrysanthemums, &c. One of Mr. Reeves' introductions was the lovely *Wistaria sinensis*, which reached England in 1818. The large tree of this climber at Chiswick is probably a relic of the original introduction. The success of these early efforts encouraged the Society to send out collectors at its own cost. This they did with such success that, to quote Mr. Andrew Murray ('The Book of the Royal Horticultural Society, 1862-1863,' page 15), 'the results have affected the appearance of all England. Nowhere can a day's ride now be taken where the landscape is not beautified by some of the introductions of the Horticultural Society.'

Royal Horticultural Society's Collectors.

'The first collector sent abroad was Mr. Don in 1821; he was accompanied by Mr. Forbes, who, landing at the mouth of the Zambesi, unfortunately succumbed to the climate. In 1823 Mr. David Douglas was employed as a collector on the recommendation of Sir William Hooker, then Professor of Botany at Glasgow. In 1824 and subsequent years Mr. Douglas visited North America down to California, and his explorations bore rich and valuable fruit. Among trees we owe to him *Pinus Lam-*



Sir Joseph Banks, Bart., 1743-1820.
One of the chief promoters of the Society in 1804.

bertiana, *P. insignis*, *P. nobilis*, *P. grandis*, *P. ponderosa*, and last, but not least, the beautiful *Abies Douglassi*; among shrubs, the coloured *Ribes*; and among border plants, *Clarkias*, *Eschscholtzias*, *Gaillardias*, *Godetias*, *Lupines*, the musky *Mimulus*, *Pentstemons*, and many other universal favourites. Douglas subsequently visited the Sandwich Islands, where he was killed by a bullock. It is unnecessary to refer in detail to the labours of all the collectors who did good work for the Society, though their names should be recorded. Mr. McRae was sent to Brazil and Chili, whence he introduced *Araucaria imbricata*; Mr. John Potts to India and China, and Mr. John Damper Parkes to China in the third decade of the century. In 1836 Herr Theodor

Hartweg was despatched to Mexico, Peru, Guatemala, &c., where he collected a vast number of plants, 2,000 of which have been described by the late Mr. Bentham in his '*Plantæ Hartwegianæ*.'

"The selection of Robert Fortune as a collector by the Society in 1843 is a memorable event in its history. For not only did he send home many beautiful and valuable plants, but his employment by the Society led directly to the introduction of the great tea industry into India, and subsequently into Ceylon and other countries. This introduction has caused, as is well known, a complete industrial revolution in Eastern Asia, and the transfer of the bulk of the tea trade from China to India and Ceylon, to the enormous advantage of our Indian Empire. It would occupy too much time to give a list of Fortune's introductions; but mention may be made of *Gardenia Fortunei*, *Dielytra spectabilis*, *Wistaria sinensis alba*, *Berberis Fortunei*, *Weigela rosea*, *Jasminum nudiflorum*, *Indigofera decora*, *Cryptomeria japonica*, *Moutan* or tree *Pæonies*, &c. It may be mentioned, as evidence of the cost and value of this work, that Hartweg's and Fortune's expeditions alone cost the Society £3,837 from 1841 to 1845. During this period there were distributed from Chiswick 42,584 plants, 31,374 parcels of cuttings, 308,371 packets of seeds. The last collector employed by the Society was Mr. John Weir, who went in 1861 to New Granada, whence he sent several important consignments of Orchids before he unfortunately fell a victim to the climate.

Vicissitudes of the Society.

"A detailed account of the ups and downs of the Society between the dates of the establishment of its gardens at Chiswick and its move to South Kensington would be tedious and of little interest. It would, however, enforce the lesson that societies, as well as individuals, if they are to prosper, must stick to their last and cut their coat according to their cloth. No doubt the work undertaken and carried out at Chiswick and elsewhere was beyond the resources which the Society could permanently count upon, and this notwithstanding a voluntary subscription of nearly

£7,300 towards the expenses of laying out the Chiswick Gardens. The election of new Fellows, which had been 328 in 1821, steadily declined, due no doubt in part to the imposition of a heavy entrance donation and an increased subscription, these being £6 6s. and £4 4s. respectively. Other causes of a decline in the popularity of the Society were the distrust created by a serious defalcation in 1826, and the discontinuance, in 1827, of the annual anniversary dinner—dinners not being so numerous then as to be the unmitigated nuisance they now are. Chiswick fêtes or déjeûners were established to take the place of the dinner; but after four had been held they made way for the exhibitions in Regent Street and at Chiswick, with which the name of the

Society, is inseparably connected. It was mainly at the instance of the celebrated botanist Lindley that these shows were established. Lindley, who had been appointed assistant-secretary to the Society in 1822, was ultimately elected a member of council and honorary secretary in 1858. Though the large room of No. 21, Regent Street, could hold a display of but very moderate dimensions, it served in those days for the fortnightly shows which have ever been an important and enduring feature of the Society's life.

Chiswick Shows.

"The first Chiswick show was held in 1833, the last in 1857. It is no exaggeration to say that these displays not only delighted the vast multitudes who visited them, but did much to advance British horticulture, and to guide the efforts of the kindred societies which now flourish in every part of the United Kingdom. Those who can remember these shows at the zenith of their prosperity will readily admit that nothing has ever been seen to compare with them, either in the

variety of the collections shown or in the horticultural skill they evinced. A large class of beautiful plants, from the Antipodes, the New Holland plants, as they were called, then shown in specimens of great vigour and perfection, have almost gone out of cultivation. Where can anyone now see the beautiful *Pimeleas*, *Chorizemas*, *Hoveas*, *Gompholobiums*, *Leschenaultias*, &c., exhibited in such splendour in the forties and fifties? Where the magnificent Cape Heaths, which rivalled them in beauty and perfection of cultivation? Where the striking tall Cacti?

Financial Troubles.

"It is impossible to trace, however imperfectly, the history of the Royal Horticultural Society without touching upon the financial vicissitudes, not to say misfortunes, which it has experienced. At an early date not a few Fellows were in default with their subscriptions, and between 1824 and 1855, Mr. Andrew Murray states nearly £13,000 of arrears had to be written off as irrecoverable. For several years between 1840 and 1855 both



The Interior of the Great Vinery.



Council Chamber, in the Society's Garden, Chiswick.

income and expenditure had exceeded £7,000, though the regular income from subscriptions averaged but £3,000. As long as fine weather and fashion favoured the Chiswick shows, large profits accrued from them, and up to 1851-2 the Council had been able to effect some reduction of debt, large or small, in most years. But fashion is essentially fickle, and the weather, which had almost persistently smiled on Chiswick from 1833 to 1846, began to show its seamy side, and the shows to entail heavy losses. It should be mentioned that Mr. George Bentham was secretary from 1830 to 1841, and that Mr. Knight died in 1838. He was succeeded as president by the Duke of Devonshire, who did his utmost to promote the interests of the Society during his twenty years' tenure of office. The Duke added much to the attractions of the Chiswick shows by opening his beautiful grounds adjoining to the Fellows and their friends on show days. It is weary work to follow, however rapidly, the declining fortunes of the Society down to the death of the Duke of Devonshire in 1858, and the election of the Prince Consort as his successor. Suffice it to say that, notwithstanding all possible retrenchments, schemes of reorganisation, the sacrifice of valuable collections of plants at Chiswick, of the Society's herbarium, and of an unrivalled botanical library; notwithstanding the sale of 21, Regent Street, and the descent to the occupation of a small office at £80 a year; notwithstanding the discontinuance of the Chiswick shows and efforts to revive public confidence and interest in the Society by exhibitions in the grounds of Gore House and in St. James' Hall, decline and misfortune dogged the Society's steps until, on May 1, 1858, the final crisis came; the number of Fellows being reduced to 985, and there being a debt of nearly £10,000 to face. It was eminently fortunate that even during these dark days Chiswick gardens were retained and some part of the labour of half a century saved.

Council's Report of 1857.

"Before briefly recounting the more recent history of the Society, I may quote the claims justly advanced on its behalf by the Council in their report of May 1, 1857: 'For more than half a century the Society has endeavoured to pursue the path traced out by its charter. It has examined the qualities, and reduced to order the names of fruit trees and succulent plants; it has directed the attention of scientific as well as of practical men to the improvement of the arts of cultivation; it has introduced at much cost great numbers of exotic plants to decorate our gardens; it has published many volumes filled with important treatises upon almost every subject in which the

gardener is interested; it has formed an extensive garden and orchard, in which have been collected from time to time numerous plants, valuable for their utility or beauty; it has given a great impulse to cultivation by its public exhibitions of garden produce; it has been a school from which have sprung some of the most distinguished gardeners of the century; and it has given away to its Fellows and to public establishments above a million and a half of plants, packets of seeds, and cuttings. In effecting this about £240,000 has been expended, of which £40,000 has been consumed in the creation of the garden; more than £2,000 in forming collections of drawings, models of fruit, &c.; £13,000 in the mere cost of procuring new plants and seeds; while above £20,000 has been directly applied in the form of medals and money prizes for the encouragement of horticulture.'

Prince Consort and South Kensington.

"On the election of H.R.H. the Prince Consort as President in 1858 it was hoped, and for a time it seemed, that the Society's difficulties were at an end. Under his auspices a lease of twenty acres of land at South Kensington for thirty-one years was arranged between the Royal Commissioners of the Exhibition of 1851 and the Society, the terms and conditions being embodied in an original and two supplementary agreements, dated 1860 and 1861. By these the Royal Commissioners undertook to spend £50,000 on arcades and earthworks, the Society agreeing to spend a like sum on laying out the garden with fountains, aqueducts, and statuary in the Italian style. Of the £50,000 to be provided by the Society, £10,000 was obtained from donations, life compositions, &c., and £40,000 was raised on debentures. Her Gracious Majesty the Queen gave a donation of £1,000; the Prince Consort £1,500 in cash and debentures, and many other members of the Royal Family gave encouraging help. The new charter, under which the Society is still governed, was granted in 1861, in which year, on June 5, the formal opening of the new garden by Her Gracious Majesty the Queen, the Prince Consort, and the King of the Belgians took place. On December 14, 1861, the Prince Consort passed away, greatly beloved and regretted. It may have been that the scheme which his fostering care had elaborated and developed contained in itself the germs of decay. It may be doubted whether the resources of the Royal Horticultural Society would have enabled it permanently to bear the charges of a heavy bonded debt, of the maintenance of their South Kensington grounds, and of a costly experimental garden



Journeymen Gardeners' Bothy, Chiswick.

at Chiswick. But when the support and influence, the judgment and guidance, of His Royal Highness, together with the interest and pleasure he took in the work, were lost, difficulties soon began to accumulate. It would be an unprofitable task to refer more than cursorily to these matters. As it turned out, while the Royal Commissioners rarely received any rent for their very valuable land, the Royal Horticultural Society could make no profit out of it, either in money or repute. In the years 1862 and 1871 only—the years of international exhibitions—was the Society able to meet its engagements. A veil must be drawn over the later years of the South Kensington connection; years marked by disputes between the Royal Commissioners and the Council, attempts to convert the gardens at South Kensington into a recreation ground for the neighbourhood, dissensions in the Council and growing discredit. The Society dragged on at South Kensington an existence of little use and less dignity or credit up to the end of the year 1887, when a move was made which will ultimately, there is good reason to hope, have the effect of entirely rehabilitating it in public opinion. It should be mentioned that the Duke of Buccleuch succeeded H.R.H. the Prince

"The first series of the 'Journal of the Horticultural Society' comprises nine volumes, extending from 1846 to 1855. The first paper is an account of an 'Orchideous House' at Penllergare by J. D. Llewellyn, whose son, Sir J. T. D. Llewellyn, Bt., was lately a member of Council. This series contains numerous papers of much interest. Among the contributors may be noticed Dean Herbert (a contributor to the 'Transactions' also), the Rev. M. J. Berkeley, the cryptogamic botanist, Sir J. B. Lawes, Dr. Thompson, subsequently curator of the Calcutta Garden, Dr. Wallich, Sir Robert Schomburgk, whose Venezuelan 'line' has been so much discussed; and last, but not least, our great botanist, Sir Joseph Hooker. To this series also Lindley communicated many papers.

"After this series had come to an end in 1855 there was a gap of ten years. The current series, of which the twenty-fifth volume has been published this year, commenced in 1866. It is so recent that little need be said about it. It contains many valuable practical papers, and is indeed a mine of horticultural information. Among its more important contents are the reports, proceedings, and discussions of the numerous "Con-



The Great Vinery from the West, with Rockery and Lily Pool.

Consort as president, and that Dr. Royle, the distinguished author of 'Plantæ Asiaticæ Rariores,' was secretary from 1852 till his death in 1858, when he was succeeded by John Lindley, whose long connection with the Society, commencing in 1822, is in itself enough to make it illustrious.

Publications of the Society.

"Before making a few concluding remarks as to the present position of the Royal Horticultural Society, a brief reference must be made to the publications for which it has been responsible from time to time. The 'Transactions' of the Society are contained in ten quarto volumes, three of which belong to the second series. They contain many papers of great interest and value by the most eminent British botanists and horticulturists of the time. Sir William Hooker's name first appears in vol. i., in 1808; John Lindley's, in 1820, in vol. iv. The 'Transactions' were illustrated by numerous hand-coloured plates, superior in every way to the coarse lithographic illustrations of modern botanical works. These plates still retain their freshness and brilliancy absolutely unimpaired. The 'Transactions' were discontinued after the publication of the tenth volume in 1848.

ferences' which have been held under the Society's auspices, and the papers read at them. These comprise among others the following: viz., 1884, 'Conference on British Apples'; 1885, 'Orchid Conference'; 1886, 'Primula Conference'; 1887, 'National Pear Conference'; 1889, 'National Rose Conference'; 1890, 'Vegetable Conference,' 'Chrysanthemum Conference,' 'Daffodil Conference,' 'Carnation Conference,' 'Fern Conference'; 1891, 'Conference on Hardy Summer Perennials and Small Hardy Fruits'; 1892, 'Conifer Conference'; 1893, 'Begonia Conference'; 1895, 'Conference on British-grown Fruit,' 'Primula Conference'; 1899, 'Conference on Hybridisation.' The Society has also published an admirable monograph on 'Bulbous Irises,' by Professor Sir Michael Foster, M.P., F.R.S., and a list of the plants certificated by the Society from 1859 to 1896. Few words are necessary in dealing with the present position of the Royal Horticultural Society. If it has done anything to retrieve the errors of the past, and to inspire confidence in the future, it has been by sticking resolutely to its last; by bearing constantly in mind that the function of a horticultural society is to promote horticulture; by a successful attempt to clear off all outstanding liabilities, and a fixed determination to avoid debt.

"In reducing the minimum subscription to £1 1s. in 1888, the

Society was actuated by a desire to enrol amongst its Fellows as large a proportion as possible of the vast number of their fellow subjects who are interested in gardens. The result of this and other changes has been, on the whole, eminently successful, the average annual net increase in the number of Fellows being 280, the total number 4,750, against a maximum of, so far as can be ascertained, about 2,500 in the old Chiswick show days. The 'Journal' is now published quarterly. The Committees of the Society include in their several departments a large number of the principal horticultural experts in the kingdom, and their certificates and awards are eagerly sought for, and practically meet with unanimous acceptance. The great shows of the Society, held now for several years in the gardens of the Inner Temple by the continued kindness of the Benchers, have been in many respects the finest ever seen in Great Britain. The fortnightly shows held in the Drill Hall, Buckingham Gate, Victoria Street, Westminster, are now largely attended, and attract such a number and variety of exhibits as to make it increasingly difficult to find room for them. They are rendered additionally interesting by the valuable papers read before them. The Society's Fruit Show at the Crystal Palace has already become an important annual event. These fruit shows, with the papers read at them, have taught valuable practical lessons both in horticulture and economics. The shows are visited annually by an average of 30,000 people."—(From Sir Trevor Lawrence's brochure.)

The Garden at Chiswick.

The Society's garden, as already remarked, was established at Chiswick in 1822. Formerly the garden was considerably larger than it is to-day; but it is a very "cosy" and pretty garden, and of certain features of it we are able to furnish views from photographs taken by Mr. Turner, the foreman there. The Council Chamber, illustrated on page 474, is where the office work of the garden is performed, and where also the committees meet when they visit Chiswick. A library of reference books is here contained, and the weekly gardening journals are always found upon the table. In the autumn, winter, and spring months the meetings of the Chiswick Gardeners' Mutual Improvement Society are held in the Council Chamber, and series of lectures are occasionally delivered to the students by experts commissioned by the Council. The little building is half hid under a burden of Ivy, whose green and golden coloured leaves are acceptably harmonious with the beautiful lawn that merges in a broad, long sweep southward to the rock garden, close to which is the Great Conservatory, or Great Vinery, as it more commonly is called, and the Lily pool, of which a view is also given. The rockery is not extensive, but serves to support the gardenesque character of the view from the Council Chamber and other points of vantage.

The glass houses are not in one compact range, but are much separated; here a range, there another, with an odd house intervening. The Muscat house, Fig house, and house No. 5, containing Peaches, are excellent structures affording instruction to Fellows and the students. The Peach and Fig houses are included in the illustration on page 479, with a large trial brake to the east of them. The Peach trees are trained on the back wall, with bush trees in front of them; and it is generally accepted that the collection of Figs at Chiswick is as varied as the most extensive in the country, and an exceedingly fine one. The Muscat vinery affords a splendid object lesson in an uncommon method of training. The house is span roofed, but the sides are high and the roof slopes at an angle of about 30deg. Within it, the rods are first taken up vertically and then bent straight across at right angles. Being a comparatively wide house, the length of extra Vine which is thus laid down supersedes by a number of feet the possible measurement of rods trained obliquely, and good results are yearly obtained.

A lengthened hip-span house built against a south wall on the opposite side of a pathway that passes the gardeners' bothy, is mainly devoted to Gros Colman Grape. The house is severely limited in the matter of height, and Mr. Wright found it necessary to repress the rods by hard and constant pruning of the upper and better parts, which, indeed, was compulsory mutilation. But he found he might shorten the rods, so to say, in another way, namely, by drawing them down and affixing them firmly into excavations in the border, by means of stout pegs. Thus 3ft or 4ft of head room was obtained for the best portion of the Vines, and the results have justified the practice. A figure showing part of a rod so treated was given in this Journal, on July 22, 1897, page 67.

The Great Vinery is 180ft long, by 30ft broad, and 26ft high, forming one of the largest houses devoted to the culture of Grapes in this country, and one of the noblest historical con-

servatories in existence. We furnish both interior and exterior views, showing the spacious curvilinear form, and the great iron steps which move along on wheels fitted to rails at the sides. This house was erected by a firm now non-existent, namely, Messrs. D. and E. Bailey, 272, Holborn. The Vines are all planted in outside borders and brought through the low walls into the house, thence are trained upward at a gentle bend. A few Palms are placed on the open central floor of the house, and a marble statuette of two beautiful cherubs lovingly embraced (a present from the late Queen Victoria) stands on a side stage. Frankenthal Grape outnumbers all the other varieties, but this is being superseded by sorts more worthy of the space. It may not be uninteresting to name the whole of the collection as grown in this great vinery, and these include the following:—

Barbarossa, synonymous with	Chasselas Napoleon
Gros Guillaume	Golden Hamburgh
Muscat of Alexandria	Dutch Hamburgh
Black Monukka, supposed to	Raisin de Calabra
be an Indian Grape	Syrian
Gros Colman	Black Tokay
Black Hamburgh	Buckland Sweetwater
Black Alicante	Gros Maroc
Foster's Seedling	St. Antoine
Black Prince	Lady Downe's, and
Royal Muscadine	Trebbiano

The object of the garden is not sufficiently realised. The Council are anxious to make the garden (as far as the funds at their command will allow) a School of Practical and Scientific Horticulture, and of increased value and interest to the Fellows, and have given careful attention to their present condition. The garden is devoted (1) to the cultivation of all such fruits, vegetables, stove, greenhouse and hardy plants and flowers as are found to be most generally useful or ornamental; (2) to the trial of new sorts side by side with established varieties; (3) to the hybridisation of plants and the raising of new varieties; (4) to experiments in the culture and treatment of those plants which possess a floral or decorative as distinguished from a merely scientific value and interest. To these may be added (5) the trial of such horticultural appliances and materials as may from time to time be submitted.

The cultivation, trial, &c., of fruits have always been considered as of the utmost importance, and happily forms one of the most valuable features of the garden. There is an almost unique collection of the best varieties of fruits, and it is intended to maintain and extend it by the trial of such novelties as the raisers may be good enough to bestow on the Society. Each year sees a number of useful trials conducted with either vegetables, Tomatoes, or flowering plants, and collections of German Irises, Pæonies, and other plants are found in the garden. The large divisions devoted to Plums, Pears, Apples, and all other fruits, grown in every form and style, are planted in alphabetical order for convenience sake. The garden is worked by a small staff of paid journeymen gardeners, with from eight to twelve students who have adopted gardening as their avocation, their ultimate aims being as diversified as the young gentlemen themselves. A large number of plants and seeds are annually distributed to the Fellows of the Society, and the growing of these is certainly not an insignificant part of the year's routine.

Of the Society's hardworking Secretary, it is needless to write in terms of praise. He is virtually the managing director, and so successful as such that the President, the Council, the Committees, and the Fellows know him and value him at his true worth. The Rev. W. Wilks, M.A., is an unobtrusive, thoughtful and kind hearted gentleman, and appears to be supplied with humour and wit for every occasion.

Mr. S. T. Wright was appointed superintendent in 1896, and fits the position perfectly. He is always courteous and kindly, and ready to assist, so far as the many calls on his time allow him. With the stinted means for gardening operations at his disposal, he manages most admirably, and we live in hopes of seeing Mr. Wright at the head of a brand new garden, with improved glass structures and appliances, and otherwise furnished with all that is necessary for the practice of the highest horticulture.

Mr. T. Humphries came from Kew to Chiswick ten years ago, and rivals his professional superior in the geniality of his disposition, and readiness to be of service to all having business with the Society, or who have a love for flowers. He is specially well versed in flowering trees and shrubs and hardy plants. He and Mr. Wright work admirably together, to the credit of Chiswick. But of the garden we cannot say more at this time, though we would. Sunny and beautiful as the garden is, it once was lovelier, and certainly much more important.



Concerning the Auricula.

Seeing that as Auricula cultivators we differentiate between the Show Auriculas, viz., the green edges, grey edges, white edges, and selfs, with their mealed zones of paste round the tube, and the mealless Alpines, destitute of paste or farina, with their shaded margins, it is misleading to term the figure on page 447 an "Alpine Auricula." It stands as an illustration of a mealed, unshaded, self Show Auricula, and not as an Alpine proper. The remarks

by Mr. John Forbes, which you gave on page 378, apply only to the Show Auriculas. He does not, in the passage you quote, describe the Alpine at all. There are two faults in the illustration you give if regarded as an ideal flower: the tube or eye is much too large, and the zone of white paste round it much too narrow; but the latter is a common fault in selfs, and in the case of the fine new selfs the Rev. F. D. Horner exhibited recently at Birmingham, so large, stout, and smooth—they had margins so broad as to be out of proportion to the zones of paste. But there is great gain to floriculture in them, notwithstanding their defects, and the ideal flower is yet a considerable way from attainment. We possess, undoubtedly, something like two centuries and more of veritable tradition and record of Auricula culture in this country. Most of the varieties which were popular fifty years ago have ceased to be so in our day. Colonel Taylor and Page's Champion still exist here and there, but are rarely to be met with. They were two of the leading green edges then; and of lesser note were Apollo, Duke of Wellington, Lovely Ann, Prince of Wales, &c. Their places are now occupied by such older varieties as General Niell and Talisman, and more modern ones such as The Rev. F. D. Horner, Abbé

Liszt, Mrs. Henwood, Shirley Hibberd, Abraham Barker, and others. Some green edges belie their early promise, and fall aside after two or three years' culture. Going back again to the fifties, the leading grey edges were Conqueror of Europe, General Bolivar, Lancashire Hero, Privateer, Ringleader, and Richard Headly. Most of these are still grown. Lancashire Hero and Richard Headly are yet in the foremost rank, and to them can be added George Rudd, George Lightbody, Marmion, Silvia, and William Brockbank.

Of old-time white-edged Auriculas there were Catharina, Favourite, Glory, Regular, Smiling Beauty, and True Briton. These are all superseded by Acme, Conservative, Heather Bell, John Simonite, Mrs. Dodwell, Reliance, Snowdon's Knight, &c.

The self Auriculas were a small section in the middle of the last century, and it is worthy of note that in his spring and autumn florist flower catalogues of 1856 the late Mr. Charles

Turner, though he catalogued varieties of green, grey, and white edges, did not include a single self. But the leading varieties were Jupiter, Mrs. Smith (still a useful dark flower), Metropolitan, and Othello. C. J. Perry, Sapphire, Lord of Lorne, Vulcan, Black Bird, Pizarro, Ellen Lancaster, Topsy, and Mrs. Douglas came later. They are now replaced by Black Bess, Heroine, Mrs. Barnard, Ruby, Sir William Hewitt, and Gerald. The selfs have undergone a more rapid and more extended improvement than any other section.

The Alpine Auriculas have been greatly improved during the last thirty years; previously to 1870 there were but very few, and

they were rarely catalogued. Mr. Charles Turner, in the first instance, followed by Mr. James Douglas, have been the two men who have done most in leading on the Alpine Auricula to the high ground of comparative perfection it occupies to-day. This section is divided into two classes: the gold centres (by far the most numerous) and the cream or white centres, the last a very difficult class to secure in its best character. But there is no mealed paste with its covering of fine farina in its centre, as in the case of the Show varieties. A mealed Alpine is a nondescript; and so it is incorrect for Alpine Auriculas to be described in catalogues, as they too frequently are, as possessing paste. The anthers, as in the case of the Show varieties, should fill up the tube or eye of the flower, and the pistil must not obtrude itself in any way, as it is a grave defect. It unfortunately does so in the case of one or two at least of the newer varieties, and it becomes in their case a decided imperfection.

Then the corolla should be flat, symmetrical, and stout, and the outer edge unbroken by any gap whatever. It has taken years to obtain the perfectly smooth and unbroken edge; but there are still in cultivation leading varieties which betray the possession of this defect. Another very important point in an approximately perfect



Rev. W. Wilks, M.A., Secretary R.H.S.

Alpine Auricula is that the marginal colour shall be shaded, the ring of some dark tint which usually surrounds the golden or white centre, having beyond it, and stretching away to the extreme edge, a shading of a paler colour.

A very large majority of the seedling Alpine Auriculas come with golden centres, and that is why so great a proportion of the varieties which are exhibited have the golden centre. Several that are classed as white centres show when the young pips expand creamy, primrose, or yellow centres, but they bleach to white with age. The crying defect in such is that when exhibited they have a confused appearance. The young flowers show tinted yellow centres, the older ones are white or nearly white. What is wanted is a race of Alpine Auriculas which will open white and remain so to the end. Then there is a further defect in some of the white centred Alpine Auriculas: that the centre decays before the marginal colour, the result being that there is a



Mr. Thos. Humphries, Assistant Superintendent.

ghastly, death-like appearance in the centre while the marginal colour is yet vital. What raisers should strive for is to secure seedlings which will open white and the centre endure as long as the marginal colour. This is what I have been aiming at as a raiser for a few years past, and I think I have secured it in two varieties at least, and one of these I exhibited before the Floral Committee of the R.H.S. on the 20th inst. Unhappily, the two or three men on that body who could appreciate such a flower were absent; the result was that one of the finest white-centred Alpine Auriculas ever raised was passed over for lack of knowledge on the part of the Committee. Mr. James Douglas, our leading raiser of Alpine Auriculas in the South, and Mr. J. W. Bentley, of Manchester, who is now the leading raiser in the North, both pronounced the variety to be worthy of the highest award the Floral Committee could make to an Auricula. It is one of the weak points in the constitution of the Floral Committee that there are on it so very few who are intimately acquainted with the properties of florists' flowers; and then, as in the case of my Auricula, want of knowledge sometimes leads to unmerited neglect.—R. DEAN.

The Temple Show.

(Continued from page 470.)

Mr. Amos Perry, Winchmore Hill, London, N., who grows such a large collection of hardy plants, on this occasion excelled himself in the variety and fine arrangement of his exhibit. He staged the blue *Lathyrus azureus* (Lord Anson's Blue); *Iris tenax* (purple); *Verbascum phœniceum album*, *Delphinium belladonna*, *Trollius europæus* Orange Globe, *Iris Susiana*, with *Liliums*, *Gladiolus The Bride*, *Tulips*, *Eremuri*, *Violas*, and *Incarvillea Delavayi*.

Messrs. J. Laing and Sons, Forest Hill, London, staged tuberous Begonias, of which we noted Queen Alexandra, a lovely salmon pink single, with fringed edge; and their Fringed White is also splendid. They staged a large assortment of both singles and doubles. Miss A. Rothschild is good; so is The Shah, and Begonia Transvaal, yellow, form a fine decorative plant. The plants were robust and floriferous. Laing's hybrid *Streptocarpus*, in many colours, are admirable for the greenhouse.

Messrs. Barr and Sons, King Street, Covent Garden, contributed hardy flowering plants, chief among which were some extraordinarily strong growing plants of *Lilium giganteum* suitable for immediate planting; also *Dodecatheons*, *Gentiana verna*, Iceland Poppies, *Saxifraga pyramidalis*, Spanish Irises, *Primula Sieboldi* in vars, *Ourisia coccinea*, *Phlox subulata*, and the showy *Alyssum citrina*, with *Cytisus præcox*, *Genista Andreana*, and the early flowering *Gladioli*. The Japanese dwarf trees were another special feature.

Mr. M. Pritchard, Christchurch, Hants, staged a select group of seasonable hardy plants, which we had great difficulty in viewing owing to the dense crowd, but a host of lovely *Pæonies*, *Aquilegias*, *Pyrethrums*, *Irises*, *Tulips*, *Heucheras*, and other subjects.

Mr. K. Drost, Kew Nursery, Richmond, with the stately *Lilium eximium* broke the great variety between hardy plant groups; and next to him was Mr. W. J. Godfrey, of Exmouth, Devon, staged a little group of Oriental Poppy, Viscountess Ebrington, and others; all very distinct and beautiful and greatly admired.

Mr. T. Jannock, Dersingham, near Sandringham, was forward with his well known renowned Lily of the Valley, and cut sprays of Lilacs; while Mr. J. J. Upton, Irlam, near Manchester, was unexcelled in the brilliance of his *Gloxinias*. This group was indeed very choice.

Mr. W. R. Newport, Hillingdon Heath, Uxbridge, Middlesex, had *Lobelia* "Newport's Model," rather dull in colour, being too deep in shade; but the white eye helps it.

Mr. Vincent Slade, Staplegrove Nursery, Taunton, Somerset, staged single Zonal *Pelargoniums*, in vases, and representing a bright and varied selection.

Messrs. Hopkins, Mere, Knutsford, Cheshire, contributed hardy flowers, among which were *Phloxes* (dwarf), *Gentiana acaulis*, *Trollius europæus*, a pink Daisy named Alice, *Saxifragas*, and other things. Mr. R. Sydenham had Sweet Peas.

Messrs. R. Smith and Co., Worcester, had a large exhibit of hardy plants, which were rather crowded. The Moutan *Pæonies* were bright, while other notable subjects were *Trollius* in variety. A good collection of *Irises*, *Saxifragas*, *Pyrethrum*, *Primulas*, and *Phloxes* made a capital display.

Messrs. G. Stark and Son, Great Ryburgh, staged an exhibit of a new yellow *Viola Royal Sovereign*, which is not quite rayless, but certainly effective. A pretty exhibit of Sweet Peas came from Mr. C. A. Walls, Mark Lane, who used *Asparagus plumosus* in arrangement. The colours were bright and the individual flowers large.

Messrs. W. Cutbush and Sons, Highgate, set up eleven varieties of bedding Begonias, which were dwarf, and effective for the purpose. The best were Rose Pet, Phosphorescens, Cream Pet, Pink Pet, Strawberry Pet, and Yellow Pet.

Messrs. Veitch and Sons, Limited, Chelsea, exhibited a fine strain of their hybrid *Streptocarpus*, the colours varying from pure white, through pale lavender, rose, pink, and violet. The plants were well flowered, and the foliage all that could be desired. Also a charming group of *Kalanchoe flammea*, with a groundwork of Maidenhair Ferns, and a fine exhibit of *Schizanthus wisetonensis*.

From Messrs. Watkin and Simpson, Covent Garden, came a very pretty strain of hybrid *Lantanas*, none of which were more than 9in high, while the colours are most vivid, and appeared free flowering.

Mr. W. Poupert, Marsh Farm, Twickenham, exhibited some remarkably fine Lily of the Valley of the Victorian variety. They were tastefully arranged in fan shapes with a bed of *Adiantum* Fern.



Mr. S. T. Wright, Garden Superintendent.



Trial Brake of Phloxes, and Part View of the Glasshouses.

Messrs. Blackmore and Langdon, Twerton Hill Nursery, Bath, had an extensive display of single and double Begonias of a high order of merit, some of the named varieties being especially good, Sir T. Lipton, Mrs. J. Chamberlain, Magnificent, and Tommy Atkins being worthy of note. The majority were seedlings of a good strain.

Herbaceous Calceolarias were staged by Mr. W. H. Newton, gardener to A. M. Nathan, Esq., Potters Bar. The plants were well grown, but the flowers showed signs of sunburn; otherwise they were of a good strain.

Messrs. R. and G. Cuthbert, Southgate Nurseries, had a large collection of late flowering Tulips which attracted much attention. A few of the best were Gesneriana Rosea, Darwin Hecla, Bouton d'Or, Glow, Parisian Yellow, Buenaventura, Vitellina, and May Queen. These were not overcrowded and the effect thereby enhanced.

Mr. W. J. Caparne, Guernsey, staged Irises in variety, Ixias, and Sparaxis in variety. The latter were particularly good, and attracted a lot of attention from the visitors.

Messrs. Reamsbottom and Co., Gleashill, King's County, arranged a large table of St. Brigid Anemones in splendid style. The blooms were large and the colours brilliant; certainly a grand strain.

Messrs. Webb and Sons, Wordsley, Stourbridge, exhibited a fine strain of Gloxinias, in which the spotted varieties were conspicuous; also a capital strain of herbaceous Calceolarias, which were large and varied in their colouring. An excellent strain.

Mr. R. J. Fraser, Ingleborough, Clapham, Lancaster, made a pretty exhibit of rock and Alpine plants, in which the Primulas, Gentianas, Irises, and Phloxes were attractive.

Messrs. Paul and Son, Cheshunt, made an exhibit of late flowering Tulips, rock and Alpine plants; also a good collection of Rhododendrons. The Tulips included Bouton d'Or, Darwins, Parrot varieties, and Gala Beauty. The Rhododendrons were large, fresh, and of bright colours.

Messrs. B. S. Williams and Son, Upper Holloway, staged a nice basket of Verbena Ella Wilmott, the well-known pink variety.

From Messrs. Geo. Boyes and Co., Aylestone Nurseries, Leicester, came a good table of tree and border Carnations in great variety, and consequently made a pleasing change.

A veritable rock garden was formed by Messrs. J. Cheal and Sons, Crawley, which was well furnished throughout with typical

specimens. The Primulas, Phloxes, Saxifrages, Gentianas, Sedums, Cypripediums, and a host of other plants were associated with dwarf greenery, and the exhibit attracted much attention.

Fruit and Vegetables.

Orchard house fruit came from Messrs. T. Rivers and Son, Sawbridgeworth, and represented by a fine collection of Peaches and Nectarines in pots, also Cherries. The Cardinal Nectarines were heavily cropped, but the fruits were of excellent size. The Peaches were Hale's Early, Duchess of Cornwall, and Early Rivers. A few baskets of choice fruits were arranged in the centre. A truly fine exhibit.

Mr. W. Allan, gardener to Lord Suffield, Gunton Park, Norwich, exhibited eighteen pots of Strawberry Lady Suffield. The plants had cropped well, and the fruits were of good size.

A splendid collection of fruit came from Mr. W. L. Bastin, gardener to A. Henderson, Esq., Buscot Park, Farringdon, comprising bunches of Foster's Seedling Grape, Buscot Park Hero Melons, Cardinal Nectarines, Hale's Early Peaches, well preserved Annie Elizabeth Apples, May Duke, and Early Rivers Cherries, Pines, good Strawberries, and Figs, the whole arranged with a few Ferns and Asparagus trails, which produced a good effect.

British Apples in one hundred varieties came from Mr. John Watkins, Pomona Farm, Hereford. They were well preserved and of excellent colour. To note a few of the best one would select Wagener, Annie Elizabeth, Bess Pool, Belle de Pontoise, King of Tomkins County, Beauty of Kent, Brabant Bellefleur, Lord Beaconsfield (grand colour), Striped Beefing, and Cox's Orange Pippin.

Mr. Edwin Beckett, gardener to Lord Aldenham, Elstree, staged a grand collection of vegetables in his well-known style. Tomatoes were represented by Golden Cluster, Best of All, Winter Beauty, Princess of Wales, Dessert, Perfection, Golden Nugget, Eclipse, and others. Vegetable Marrows, Sutton's Perfection and Custard, were good. Early White Milan Turnip, with its older type, were in evidence. Broad Beans of the Mazagan type, Pea Early Morn, Excellent Asparagus, Potatoes First Crop, Snowdrop, Carter's Perfection Beet, Carrots Inimitable Forcing and Holborn Forcing. Edwin Beckett Pea deserved a special word, for they were unusually fine. Carter's Summer Broccoli, Extra Early Forcing Cauliflower, Marquis of Lorne Cucumber, Leeks, Mush-

rooms, and a variety of salads completed one of the best displays for the season that one could well imagine.

Mr. G. J. Hunt, gardener to P. Ralli, Esq., Ashted Park, Epsom, furnished a capital arrangement, as well as good fruit. The centrepiece was composed of Melons, Peaches, Strawberries, Grapes, Cherries, Figs, and Apples, while the side pieces were similarly arranged. The rest of the table consisted of dishes of Peaches, Apples, Melons, Figs, Strawberries, and a few plants, while Smilax had been used most effectively.

From Messrs. G. Bunyard & Co., Maidstone, came a fine exhibit of Apples. Needless to say, the fruits were large and well preserved, some of the best being Cox's Pomona, Rymer, Alfriston, Hornead's Pearmain, Swedish Reinette, Wadhurst Pippin, Calville Rouge, Bismarck, and Lane's Prince Albert. A good dish of Uvedale's St. Germain Pear and a few Cherry and Peach trees in the centre of the exhibit. There were 100 dishes.

Messrs. Cannell and Sons, Swanley, arranged a table of early vegetables, and very good they were too. Cannell's Defiance Cabbage, Mammoth Leeks, Early Gem Tomato, Cannell's Model Broccoli, Lord Roberts, Harbinger, Early Rose, and Pride of Tonbridge Potatoes were the chief items. The same firm also exhibited some well-grown Peas of Duke of Norfolk, Duchess, and King Edward VII., the latter carrying a heavy crop.

Mr. A. J. Harwood, Colchester, staged five bundles of Giant Asparagus, quite equal to anything we get from across Channel.

Mr. W. Godfrey, Colchester, staged six bundles of the same vegetable, and they were equally fine.

A fine collection of Cucumbers and Tomatoes were staged by Mr. S. Mortimer Rowledge, Farnham. The varieties were Sensation, Express, Epicurean, Mortimer's Approved, Improved Telegraph, British King, Tender and True, Verdant Green, Prize-winner, and Lockie's Perfection, all good typical fruits. The best of the Tomatoes were Hipper I., Perfection, Best of All, Princess of Wales, and Winter Beauty.

Leopold de Rothschild, Esq., gardener, Mr. Hudson, Gunnersbury House, Acton, set up a magnificent group of pot Cherries, all of which were literally laden with well coloured fruits, and had robust foliage. Truly a grand exhibit.

Certificates and Awards of Merit.

Azalea rustica fl.-pl. ramosa (R. and G. Cuthbert).—A sweetly coloured form. A mixture of cream, pink, and salmon—charming. Award of Merit.

Cattleya intermedia aguini (Mr. Kromer).—A very good form, with each segment tipped with bright purple, the lip likewise; the other segments rosy-mauve. Award of Merit.

Cattleya Mossiae Aurora (Stanley Ashton & Co.).—A charming flower with orange throat, and deep rose-mauve sepals and petals. The form is most graceful, and large, too. Award of Merit.

Cattleya Mossiae memoria Dr. Smee (Hugh Low and Co.).—A most magnificent form of great size, and deeply tinted rose-mauve, the edges silvery. The lip is large, expansive, opens well in front, and is rich bright purple, also silvery edged. Award of Merit.

Cucumber British King (S. Mortimer).—Has long dark green skinned fruits; a cross between Sensation and Famous. Award of Merit.

Cypripedium Godfroyae leucochilum pulchellum (Sir F. Wigan, Bart.).—A sweet little flower of the Godfroyae form, coloured pure white and spotted at the base of the segments with rich purple. Award of Merit.

Darlingtonia Californica rubra (A. J. Bruce).—A handsome dark red form of this somewhat rare plant. Award of Merit.

Freesia aurea (Wallace & Co.).—A deep yellow flowered species of great beauty, and very distinct. Award of Merit.

Iris sofarana magnifica (Wallace & Co. and Barr & Sons).—A darker coloured Iris than I. Susiana, but otherwise following the pattern of that handsome sort. Award of Merit.

Lælia × *Helen* (Charlesworth and Co.).—A cross between *L. tenebrosa* and *L. Digbyana*. The lip is the main feature, being large, fringed, and rosy-mauve; the other segments being narrow, somewhat fluted, and coloured tawny-red. Award of Merit.

Lælio-Cattleya Hyeana splendens (Charlesworth & Co.).—A marvellous variety for the intensity of its purple mauve colour, and the intense rich velvety lip of an amaranth hue. First Class Certificate.

Lælio-Cattleya Zephyra alba (F. Wellesley, Esq.).—A delicately beautiful form, with nicely recurving petals, almost white, but slightly tinged with cream. The lip is tinted creamy and orange in the throat. Award of Merit.

Masdevallia Rushtoni superba (Sir Trevor Lawrence, Bart.).—The colour is rich crimson. Award of Merit.

Nymphaea W. Stone (L. de Rothschild, Esq.).—A stellate variety with purplish blue flowers. Award of Merit.

Odontoglossum Alexandrae British Queen (Sander and Sons).—Exquisitely beautiful and large. The sepals and petals are pure white, the lip yellow and spotted purple. Award of Merit.

Odontoglossum concinnum (C. Vuylsteke).—Flowers of moderate size, with incurving segments, each maroon blotched on a white ground. Award of Merit.

Odontoglossum crispum ardentissimum (C. Vuylsteke).—A magnificently rich maroon-purple crispum, with the segments white-edged. The raceme bore five flowers of large size. First Class Certificate.

Odontoglossum crispum Calypso (Charlesworth and Co.).—Of moderate size, blotched on each segment with chestnut brown on white. Award of Merit.

Odontoglossum crispum Edward Rex (Sander and Sons).—A plant bearing an enormous raceme of twelve large flowers. The ground colour is white and spotted in the central parts with reddish purple. A fine spotted sort. Award of Merit.

Odontoglossum crispum Lady Jane (J. Wilson Potter, Esq.).—A superb and large flower, with the sepals lined and marked with rich chestnut, the other segments pale mauve and white; exceedingly sweet. First Class Certificate.

Odontoglossum Dulce (C. Vuylsteke).—The flowers are very large, and the raceme long. The segments are light maroon spotted on white ground. Award of Merit.

Odontoglossum Pescatorei Charlesworthi (Charlesworth and Co.).—An excellent variety with white ground and spotted at the apex of the segments with violet purple. First Class Certificate.

Odontoglossum Queen Alexandra (J. Rutherford, Esq.).—A very richly coloured variety of the *O. triumphans* type. The lip is light yellow, and the segments heavily marked with dark chocolate brown. Award of Merit.

Odontoglossum verificum (C. Vuylsteke).—One of the most distinct and showy of all, of good form and size, and very showy. The segments are largely marked with light purple on white. Award of Merit.

Oncidium varicosum Charlesworthi (Charlesworth and Co.).—A large form of the type with rich colouring. First Class Certificate.

Medals.

GOLD MEDALS to Messrs. J. Veitch, for Caladiums, Cacti, &c.; Messrs. Barr, for Alpines, herbaceous plants, &c.; Messrs. Fisher, Son, and Sibray, hardy trees and shrubs; Messrs. Paul and Son, for Roses, &c.; Messrs. Sander and Sons, for Orchids and Caladiums; Messrs. Rivers, for fruit; Leopold de Rothschild, Esq., for fruit trees, &c.

SHERWOOD CUP.—Messrs. Fisher, Son, and Sibray.

SILVER CUPS to Lord Aldenham, for vegetables; Sir T. K. Wigan, Bt., for Orchids; Mr. Pantia Ralli, for fruit, &c.; Capt. G. L. Holford, C.I.E., M.V.O., for Amaryllis; Mr. J. Colman, for Orchids; Messrs. T. S. Ware, Limited, for herbaceous plants and Alpines; Messrs. H. Cannell and Sons, for Cannas, Begonias, &c.; Messrs. Balchin and Sons, for Ericas, &c.; Messrs. W. Cutbush and Sons, for clipped trees, &c.; Messrs. R. and G. Cuthbert, for Azaleas, &c.; Messrs. R. Wallace and Co., for Lilies, Irises, &c.; Mr. A. J. A. Bruce, for Sarracenias; Messrs. J. Charlesworth and Co., for Orchids; Messrs. W. Paul and Son, for Roses; Mr. C. Turner, for Roses, &c.; Mr. Amos Perry, for hardy plants; Mr. M. Pritchard, for hardy plants; Messrs. G. Bunyard and Co., for Apples; Messrs. T. Cripps and Sons, for Maples; Messrs. J. Cheal and Sons, for Alpines and shrubs.

SILVER GILT FLORAS to Messrs. Carter and Co., for Calceolarias, vegetables, &c.; Messrs. J. Hill and Son, for Ferns; Mr. G. Jackman, for Clematis, &c.; Mr. H. J. Jones (Lewisham), for Begonias, &c.; Messrs. Hugh Low and Co., for Orchids, &c.; Messrs. Dobbie and Co., for Pansies, &c.; Messrs. R. Smith and Co., for Clematis, &c.; Messrs. J. Peed and Son, for Caladiums, &c.; Messrs. Fromow and Sons, for Maples; Mr. G. Mount, for Roses; Messrs. J. Watrer and Sons, for Rhododendrons; Messrs. Stanley Ashton and Co., for Orchids, &c.; Mr. J. Cypher, for Orchids; Mr. Leo de Rothschild (Ascott), for Carnations; Messrs. J. Backhouse and Son, for Ferns.

SILVER GILT KNIGHTIAN.—Mr. John Watkins, for Apples; Mr. S. Mortimer, for Cucumbers.

SILVER GILT BANKSIAN.—Messrs. B. S. Williams and Son, for Orchids, &c.; Mr. John Russell, for trees and shrubs; Messrs. B. R. Davis and Sons, for Begonias; Messrs. Kelway and Son, for Pæonies; Mr. W. Iceton, for Lilies of the Valley; Messrs. Reamsbottom and Co., for Anemones; Mr. W. J. Burkenshaw, for Orchids.

SILVER FLORA.—Messrs. W. H. Rogers and Son, for Rhododendrons; Mr. J. R. Box, for Begonias; Messrs. Benjamin Cant and Sons, for Roses; Mr. S. Eida, for dwarf trees; Messrs. J. Laing and Sons, for Streptocarpus; Mr. Ch. Vuylsteke, for Orchids; Messrs. Frank Cant and Co., for Roses; Messrs. J. Cowan and Co., for Orchids; Mr. L. Linden, for Orchids; Mr. J. Rutherford, M.P., for Orchids; Mr. R. J. Farrer, for Alpine plants; Mr. J. J. Upton, for Gloxinias.

SILVER KNIGHTIAN.—Mr. A. Henderson, M.P., for fruit; Mr. W. Godfrey, for Asparagus; Lord Suffield, for Strawberries, &c.

SILVER BANKSIAN.—Messrs. Jones and Son (Shrewsbury), for Sweet Peas; Mr. W. J. Godfrey, for Poppies; Mr. A. J. Harwood, for Asparagus; Mr. J. Jannock, for Lilies of the Valley; Misses Hopkins, for rock plants; Messrs. Blackmore and Langdon, for Begonias; Messrs. Storrie and Storrie, for Auriculas, &c.; Mr. L. J. Ching, for Ferns; Hon. A. H. P. Montmorency, for Tulips; Mr. R. C. Notcutt, for cut flowers; Mr. W. J. Caparne, for Irises, &c.; Mr. K. Drost, for Lilies; Mr. A. Meyers, for Calceolarias; Messrs. W. and J. Brown, for Heliotropes, &c.; Mr. R. H. Bath, for Carnations, &c.; Mr. R. Sydenham, for Sweet Peas.

From lack of space our brief report of the tree and shrub groups is necessarily omitted.



Orchids: The Week's Cultural Notes.

Growth is now very active in all the Orchid houses, and the aim of the cultivator must be to see that nothing happens to check this in any way. A proper growing atmosphere is very difficult to maintain under the changing conditions of weather we have been recently subjected to. During the day cold storms and bitter winds have alternated with bursts of bright sunshine. The blinds may be run down and a little air put on during the latter periods, but one must be always on the watch, for an hour or two later the inside of the house would be as cold as the outside unless the ventilators were again closed.

Not only is growth checked by this lowering of the temperature, but the tender young leads are damaged the next time the sun shines upon them. The cold air apparently renders them more easily scorched and less vigorous than they would be had they kept growing freely, also more liable to be attacked by insects. Some Orchids are very much more likely to be attacked than others. Galeandras, for instance, no matter how carefully cultivated, will in nine cases out of ten be visited by thrips, and unless these are immediately destroyed they sadly cripple the young leads.

Directly any signs of these insects are noticed the plants must be carefully dipped one by one in a deep vessel containing tobacco water and soap in solution. Then sponge the leaves and stems carefully, avoiding puncturing the former, as they are very sensitive and tender. A thorough wash in soft tepid water should follow, and after the foliage is dry fumigate the house lightly. It is far better to take a little trouble when the insects are first noticed than to let them increase, and render more active measures necessary.

Green fly or aphid often appears on the flower stems of *Oncidium*s and *Odontoglossum*s, but these can usually be kept under by passing a damp sponge up each. Do not let them get the upper hand, especially with small flowering *Oncidium*s such as *O. flexuosum* or *O. sphacelatum*, for when the flowers are open it is impossible to dislodge them. These and other insects are always more troublesome in houses kept out of order than those that are kept tidy. Green fly especially breed rapidly on weeds and grass in the pots, while woodlice and small snails find a harbour among odds and ends of peat, empty pots, and other material often left about under the stages.—H. R. R.

Hardy Fruit Garden.

PEACHES AND NECTARINES.—Disbudding, or the cutting out of superfluous growths, may be continued so long as there are shoots remaining for which no suitable position can be found without entailing undue crowding. In the examination of the trees it may be found that growths have pushed from dormant buds at various parts. These are not usually required, especially in the upper parts of the trees, but a few may with advantage be retained in the lower limbs where a new branch is required to take the place of a worn out branch. The sudden removal of many growths should be avoided, gumming resulting from severe checks.

THINNING FRUIT.—Apricots as well as Peaches and Nectarines must have the fruits thinned to a reasonable number. It is best to judge the capability of the trees as regards the vigour of growth, for a weak tree ought not to be allowed to carry as many fruits as a strong one, regarding also the individual branches in the same light. A larger crop of fruit in the case of strong growers will tend to equalise growth and prevent sappy wood production. In no case allow more than one fruit on a shoot, and if they can be disposed a foot apart an ample crop will be secured. This applies to trees of medium strength. All the fruits should be in the front of the branches.

SYRINGING.—In the late afternoon of warm drying days the trees may be refreshed by a generous application of clear water from the garden engine. It will serve to maintain the foliage clean, assist the growth of wood and fruit, and prevent insects establishing themselves.

WATERING.—Syringing the foliage may apparently moisten the soil, but it does not do so to a depth sufficient for the needs of the roots. Old established trees, although well furnished with fibrous roots near the surface, have yet strong holding roots lower down. A liberal application of water should be given to reach these and provide ample moisture for the whole mass of roots. Trees on walls frequently have their roots in dry and poor positions, rendered so probably by the near presence of other trees and shrubs whose roots absorb the moisture.

FEEDING.—When the soil has been brought to a good moist state with clear water, and there are plenty of roots, further assistance may be rendered by liberal feeding. Weak liquid manure can be applied with good effect, or top-dressings of general fertilisers watered in will act quickly. The period covering the last swelling of the fruit is the best time to afford the necessary help.

STRAWBERRIES.—The whole of the plants which are promising to fruit must have a mulching laid down between the rows. The material for the most forward or early varieties should be clean and light in character, while the late varieties, having more time before the fruit ripens, may have a mulching of richer manure. Recently planted Strawberries, or those placed out this spring, may have the blooms removed, it being more desirable to encourage growth than allow fruiting the first season. Hoe to destroy weeds and cut off runners.

RED AND WHITE CURRANTS.—Newly planted bushes making free growth will need some regulating and thinning out of the crowded parts. Shoots crowding the centres must be freely thinned out, and the side shoots on the main branches shortened back to a few leaves, which will further relieve the crowding of the centres. Young bushes, even the first year, frequently produce a quantity of fruit. This should be reduced in quantity early, especially should the bushes not be disposed to make enough wood. Allow the leading growths to extend. Sucker growths from the base are usually best removed at their point of origin. Trees with clear stems should not produce them, nor will they if buds below the ground line were rubbed out at the time of inserting the cuttings. Old bushes may have a good mulching of manure.

BLACK CURRANTS.—The chief requirements of these at the present time consist of adequate moisture for the roots. In the event of very dry weather afford water and liquid manure, following by a good mulching of manure which will retain the moisture.

BLACKBERRIES AND LOGANBERRIES.—As the habit of growth is practically the same, similar treatment in regard to mulching over the roots with a liberal layer of manure at the present time should be adopted. As the shoots extend rapidly it is necessary to frequently tie and dispose them in position. They may be trained horizontally to a fence or round stakes fixed triangularly.—EAST KENT.

Trade Notes.

Heathman & Co.,

The antimonial garden hose and ladder makers, inform us they have opened a South Kensington depot at 351, Fulham Road, at which a stock of their manufactures will be kept.

A Creeper Clip.

The Creeper Clip Co., Redditch, some time ago sent one of their patent clips for inspection. This is formed simply of a narrow strip of metal flattened and pierced with suitable holes for tacks, which are driven into the brick or other walls, and fix the clip. The end of the light and flattened piece of metal is shaped like a shepherd's crook, and through the "crook" the shoots requiring support or fastening are intended to be passed. The invention makes for neatness.

An Undentable Syringe.

It is generally conceded that dentable syringes are a source of great annoyance and expense to the users of them. Once badly indented, the syringe can never again work easily, smoothly or well. But a new undentable syringe has been patented by a sundries company at Sutton Coldfield, and is called the Four Oaks Undentable Syringe, guaranteed, 1902 pattern. This syringe has the barrel or cylinder protected by an outside corrugated covering which will bear many blows or knocks without hindering the working of the article. They are guaranteed for three years.

F. Braby & Co., Ltd.

The illustrated catalogue of this firm (Petershill Road, Glasgow) shows them to be constructional engineers, roofing contractors, wire and zinc workers, and, indeed, manufacturers of all manner of articles in everyday use about gardens and landed estates, as well as in the domestic precincts. Various forms of glazing on iron astricles without putty are shown, and figures of wire fencing, lattice-work, open sheds, with corrugated roofs, and constructed entirely of wrought iron, are numerous portrayed. Water tanks, cisterns, and steel barrows likewise engage attention, and each of these are things that the gardener must keep an eye upon, and must at times renew. Here, then, are patterns for him. The firm draws special attention to the "Rustless" process, described in their "Glasgow" catalogue, by which process a skin of magnetic oxide is formed on the surface of iron or steel, which completely prevents oxidation. This is named the "Bower-Barff" Rustless Process.



TO CORRESPONDENTS

* * * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

PHOTOGRAPH (A. O'N.).—Thanks for the photograph of Cordyline; it must be some time before we can use it.

LUCERNE—ITALIAN RYE GRASS (E. R. P.).—April is the best month for sowing them, but you may sow now. The Lucerne should be sown in drills, for it should be frequently hoed. The Rye Grass may be sown broadcast.

ARTICLES FOR CONSIDERATION (D. C. H.).—Articles that are of moderate length and interesting as well as useful, are appreciated. The lack of space is an ever-present hindrance to the publication of many good articles.

READERS' VIEWS.—Owing to so many pages having been devoted to the history of the Royal Horticultural Society, and the report of the same Society's show in the Inner Temple Gardens, numerous "Views" are compulsorily held over.

SUCKERS FROM RASPBERRIES (M. H.).—The suckers from the base of the canes which were planted a year ago and died to the ground in summer, will give you strong canes this year, and we should thin them to six or eight, leaving the strongest. The canes made this year will produce fruit another year, and be in every way better than any you may plant in autumn.

SPRING BEDDING-PLANT SEED SOWING (Esse).—The seeds of all the plants you name ought to be sown from now up to June in rich, light soil in a sheltered position, and when large enough to handle the plants should be pricked-off in light rich soil about 3in apart, and in autumn either be planted where they are to flower or be transplanted to double that distance apart, moving them with balls in spring.

QUALIFICATIONS REQUIRED FOR A F.R.H.S. (A. H. B., Kimberley, S.A.).—The only "qualification" required is that he or she be able to pay his or her one guinea per year, which entitles any respectable person to all the privileges of the Royal Horticultural Society. As a Fellow you would receive the quarterly Journal of the Society, which, to gardeners at home, at any rate, is well worth the guinea itself. May we propose you?

SYRIAN VINE (J. Dabell).—Grow it on its own roots. The following is the description in Dr. Hogg's "Fruit Manual": "Bunches immensely large, broad-shouldered, and conical. Berries large, oval. Skin thick, greenish white, changing to pale yellow when quite ripe. Flesh firm and crackling, sweet, and when well ripened of good flavour. This is a very good late Grape, and generally produces bunches weighing from 7lb to 10lb; but, to obtain the fruit in its greatest excellence, the Vine requires to be grown in a hothouse, and planted in very shallow, dry, sandy soil. Speechly states that he grew a bunch at Welbeck weighing 20lb, and measuring 21½in long and 19½in across the shoulders. It is a strong grower and an abundant bearer."

HOW TO MAKE RHUBARB WINE (J. S.).—In making Rhubarb wine, take for every pound of Rhubarb stalks, when bruised, a quart of cold spring water, let it stand three days, stirring it twice a day; then press, and strain it through a sieve, and to every gallon of the liquor put 2½lb of good loaf sugar; barrel it, and to every five gallons add a bottle of white brandy; hang a piece of isinglass in the vessel suspended on a string, and stop it up close. In six months, if the sweetness is off sufficiently, bottle it for use, otherwise let it stand in the cask a longer time. Mitchell's Royal Albert and the Victoria are two good sorts. The stalks should be pulled before they become too old, and when full of juice; they should, however, be allowed to grow to a large size.

EPIPHYLLUM TREATMENT (Idem).—Repot them in spring after flowering; or, if they do not flower, in April. Provide good drainage, and a compost of sandy fibrous loam and sandy peat in equal parts, and one-fourth of silver sand, pieces of charcoal, broken pots, and leaf soil or old dry cowdung. They are best grafted on Pereskia stocks. Grafting is easily performed by cutting over in a slanting direction the stock and putting on a shoot of the Epiphyllum, securing it with a thorn of the Pereskia, tying with matting, and covering lightly with moss. It may be done in spring before growth, or after the growth is complete. Water the plants moderately, but when growing afford moisture, and in winter give water only to keep them fresh. Afford a light airy position, only when growing slight shade is preferable.

Work on the Home Farm.

Heavy rain and cold northerly winds have characterised the past week, and it requires great faith to induce people to go on sowing Swedes. As regards moisture the soil is just about right, but it is far too cold, and we must still exercise patience. The best Swedes we ever saw were drilled on June 21, so there is time enough yet, and with a sufficiency of moisture there is no present need for anxiety.

Although so cold there has been no frost, and Barley still keeps a fair colour, but a farmer from an adjacent and low-lying district tells a very different tale. One morning, about ten days ago, he was able to collect enough hoar frost to make a small snowball, and there were icy crystals on the young corn at 10 a.m. Needless to say he gives a very poor account of its present appearance, and it can never be the crop it was expected to be.

The men are still hoeing and weeding amongst the corn, and they are glad to keep their thick jackets on. Verily May is a "merrie month." The Mangolds are coming through, and so are the weeds with them. Mangolds will not grow fast this weather, whereas the weeds probably will, so we must use the side hoes freely or the young plants may soon be smothered. The Potatoes are coming through rapidly and will soon want the hoes amongst them, so if we get the Mangolds run over first they can wait for a second turn until the Potatoes are finished.

The few very early Swedes are up but do not grow—how can they? But there is comfort in the fact that the cold weather does not suit the fly, and if the little plants can but get well into second leaf they will be safe.

To expedite Swede sowing when the weather should allow, the horses are employed in carting manure to the field some distance away. In the natural course of things this muck would have gone direct from the yard to be spread between the ridges, but as matters now are we are getting one stage of the work done. Had the muck been long and strawy the extra turning over would have done it much good. But scarce straw has made good muck, and there will be little gained in that way by this extra labour.

There are, again, very disappointing losses amongst cart foals. One farmer and enthusiastic breeder of shires has lost the whole of his three foals, and another has lost five out of twelve. Bad weather is chiefly blamed, but farmers breeding from common mares rarely lose their foals, and we have suspicions that these valuable shire mares would be better for more regular work and less fancy diet. So many foals die now under a fortnight old, and they are generally those which their owners are hoping may win prizes at the approaching shows. Is it overforcing which is the root of the evil?

Nature Notes.

The steamer St. Margaret, from Brést, arrived at Plymouth on May 21 with the first consignment of French Strawberries for the season.

A shoot of Ivy has forced its way through the front wall of the manse at Brackley, Northamptonshire, into the dining-room, where it is spreading a well-leaved tendril in the direction of a bay window.

"The Golden Penny" gives a photograph of a Gooseberry bush which has somehow taken root in one of the Willow trees on the Canbury Promenade at Kingstown. The bush has lately burst into leaf again.

On Wednesday night after sunset an "afterglow" of exquisite pale green tint was noticed here. Also the second night after eruption of Mount Pelée the moon was blood coloured.—OBSERVER, Exmouth (in "Daily Mail.")

About June 7 the nightingale's song ceases. Other natural occurrences to notice at this time are the appearance of the silver Y moth, the small blue butterfly, and the dagger moth. Now, too, the redbreast's second brood hatches, and the Honey-suckle begins to blossom.

New York's noon temperature on Friday, the 23rd, was 82deg Fahr. In London the maximum shade temperature was 60deg Fahr; and while the temperature at Aberdeen was 69deg Fahr. at six o'clock in the evening of the same day, the temperature in London at the same time was 10deg lower.

10° of Frost on the 14th of May.

The recent frosts have done considerable damage to the fruit crops. In places Gooseberries and Red Currants have suffered so greatly that not a quarter of the original crop is hanging now on the bushes. Apples, Plums, Cherries, and Pears, have been damaged more or less. Some growers say that early Cherries were spoilt before these latter frosts. Black Currants were cut up before they had flowered, to the loss of half the crop in some cases. The tip bud of the Raspberries has been blackened. Potatoes and Hops have suffered extensively; the Hops have the tips of the young growths frozen to destruction. This is not all, for the Larch, Chestnuts (Spanish), and Ivy have been caught where exposed. Pears are cracking in large numbers; few will grow to maturity.—H. R., Kent.

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THURSDAY, JUNE 5, 1902.

A Chat about Vegetables.

CATALOGUES of garden produce
are like shooting stars, inas-
much as we expect them at
two particular periods of the
year; and if the shooting stars
fail we are certain the catalogues
do not, for with an unfailing
regularity they are shot into every
gardener's habitation with a persist-
ency that occasionally irritates the presiding
genius, who, on her part, utilises them as
baby-soothers, or as fire-kindlers, as the
exigencies of her conjugal bliss or housewifely
care may determine. She, however, fails not
to select a choice few wherewith the sleeping
partner of the household makes himself happy
for the nonce, readjusting balances in order
to include some new 10ft. French Bean that
requires a step ladder to reach its pods, or the
6in. Pea that is more comfortably gathered by
the aid of a campstool. And what a bad
forty minutes ensues when the uttermost
farthing of his allowance has disappeared,
and his desires not nearly met. Happily,
there is an attractiveness and a charm about
the catalogues that appear at this season that
age cannot wither nor custom stale, and we
soon resume the contented feeling that erst-
while had been lost. Moreover, there is a
comforting reliability about old vegetables
that we miss in new ones.

We are never quite sure that they will turn
in at just the particular moment wanted, and
if they do, the old may be more desirable
than the new. What a vast amount of
exertion has it taken, for instance, to shake
one's confidence in Myatt's Kidney Potato;
and if induced to try something more novel,
how quickly does it return to its old place as
first in flavour, if not in crop. What a waste
of energy has been expended on Potatoes
generally during the last thirty years, each

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address.

recurring season, seeing its quota of new sorts, in the great majority of cases to pass away as below the standard or older sorts. In Lettuces, too, I wonder how many kinds I have tried, and every one of them has gone and left the kinds I started with quite as good as any that have been experimented with. While that is the case, there has been, at least in my experience, a wonderful advance in some vegetables.

Take the Pea, a very old vegetable, that for centuries has been produced in early midseason and late sorts. The Elizabethan gardener had his Hasties, and his Ronncivals, and Rathripes, and later there were those and Hotspurs, or "Hots," as the market grower of that day irreverently contracted the historical name; Charlton's Marrowfats, and Dwarf Marrowfats, and by degrees, and in the course of years, the list of varieties increased, till, during the great renaissance in vegetable culture, we have literally dozens of greatly improved sorts. It has been my experience to try new sorts from a number of sources, and the general result is that all have improved stocks. Plants are now characterised by better health, or shall I say possess greater vigour? The peas are individually larger, and we are able to secure crops slightly more early, and first-rate peas later than formerly. There is no more common experience in visiting gardens than to have one's attention drawn to some variety which the gardener believes is out-and-out the finest of Peas. But, as a matter of fact, it is just one among many. Some Peas highly praised by others do not attain the same glorified position with me.

At the same time, I do not doubt their high qualities, for, as with some other vegetables, Peas vary to some extent according to soil. I now grow no old Peas, the last that had to give way was the grand Ne-plus-ultra, and that I continued to cultivate for several years against my better judgment. I have replaced it with Autocrat, of which I sow more than all other sorts put together. Michaelmas, in a warmer climate, may perhaps have the advantage, but here the pods do not fill so well as those of Autocrat.

Equally remarkable with Peas for all round improvement is Celery. There is absolutely no difficulty now in obtaining from one sowing the finest quality Celery from September to April. For a long time I cultivated Sandringham Dwarf for using in autumn and the early part of winter, then that was superseded by Veitch's Superb White. Meanwhile, the late crops, bit by bit, came to consist entirely of Carter's Standard Bearer, but an experience last summer, with the knowledge that the first-named keeps excellently, will lead to the whole crop being practically entirely of that sort. The summer was characterised by a long and severe drought, with little water to spare, so that the Celery leaves were for a while lying flat in the trenches. The result was that a small percentage of Standard Bearer "bolted," but out of 1,200 plants of Superb White, not one. Both are grand sorts, but I think, on the whole, the latter is on every account to be preferred.

In Leeks there is, too, a very general improvement. The southern palate, it would seem, is becoming more accustomed to the flavour, and the gardener, on his part, is helping by providing a nicely blanched plant, instead of a bunch of green blades as formerly. The process will be completed when it is recognised that the Leek, like the Onion, must have as long a period of growth as possible to attain its greatest perfection. There is no fear of its running prematurely to seed if properly treated.

The greatest advance in the Leek was undoubtedly "The Lyon." Now we have an "Improved Lyon," Champion and International, each first-class sorts. Of Onions it is unnecessary to say anything, as the sorts are so well known to everybody. In Broccoli, in the late section, there are a few notable novelties. Sutton's Late Queen is a fine sort, and Methven's June has secured a firm standing in the North as an indispensable sort. It, however, requires a long season of growth, quite fourteen months from time of sowing till the heads are ready to cut. Carter's Universal is also a very satisfactory June Broccoli. This variety stands frost better than any other sort I have tried. Seven years ago it was the only sort that stood the winter unscathed. One of our most troublesome vegetables is Spinach, which is singularly erratic as a winter crop. The safest plan, I find, is to sow early in August, and again a little later in the month. It is surprising what a number of really good varieties of Spinach are grown on the Continent; some of these possess qualities that would pay for their introduction to our gardens.

Meanwhile Viroflay may safely be grown for all seasons, only care must be taken to allow each plant a sufficient space to develop its large leaves. Carter's is also a capital sort, also requiring much space for the ample foliage. The "Laitue" and the "Lent-a-monter," which I have grown, are two very good Continental varieties. In Carrots the Continental strains, which have, however, been introduced are far superior to old kinds. I am, in particular, grateful for the stump-rooted forms, which do well in our poor light soil, where the long-rooted quite fail. All reliable seedsmen supply first-rate stocks of the best Carrots, and I think it may safely be said that all the newer sorts are decided improvements on old ones.

Of Turnips I do not know a sort to be more recommended than a good strain of "Snowball" for using during summer, autumn, and winter, and for an early crop "Early Milan." The long-rooted, or French "Narews," are delicious, but I have not found them to succeed so well as the round sorts. Cabbages, Sprouts, and Cauliflowers may safely be left out in this short review, but North country gardeners should accept a hint from those in the South, and grow a good breadth of London Coleworts. I have had them, just delicious, all the winter through, and grow also White Sprouting Broccoli, and Purple Sprouting, too, but not the early strain, which is less useful.—B.

A Note on Feeding Vines.

The click of the Grape scissors has been heard hour after hour in many gardens of late, and there still remains much thinning to be done where Grapes are largely grown. No matter whether the Grapes are grown for exhibition, home use, or market purposes, the production of berries which are large for the variety is one of the chief aims of the cultivator. Early and thorough thinning will do much to bring about the desired result, but this must be followed up by judicious feeding and watering. So soon as the thinning has been completed in any vinery the borders should be examined, and if the soil is in the right condition a thorough watering given. I always consider it an advantage to have the soil in such a condition as to require water at that stage, because if it is freely given then, and there are plenty of active roots to take it up, the young berries seem to swell with a bound, and form a framework capable of the fullest development. I do not, however, believe in watering all Vine borders immediately after thinning, irrespective of the condition of the soil and roots, as I have often seen very unfavourable results from the adoption of that practice. Judgment is needed in the matter. In all instances, however, in which it is applied at that stage I am a firm believer in giving also stimulating food. Many growers adopt the plan of placing on the border a thick dressing of dung, that composed largely of cow manure being generally preferred. It is, however, quite easy to overdo that sort of thing, with the result that the surface of the border gets so wet and sour that the young roots, instead of coming to the surface go deeper.

Fresh, crude manure which is wet and sticky I do not like, but a mixture I have found invaluable is the following: Shake out the straw from the manure obtained from stables, throw the droppings into a heap, and turn it a few times; then add to the heap half as much cow manure which has been kept for two or three months. If thoroughly mixed this forms a splendid dressing for a Vine border, if a thickness of 3in only is applied. Thick dressings exclude air, and always have a tendency to make the surface of a border sour. After the border has been dressed the surface of the manure should be allowed to dry before water is given, and a thorough soaking with clear water will then, for the time being, supply ample nourishment for the Vines. Later on a dressing or two of artificial manure will be of advantage. When no summer dressing of natural manure is given, artificial or liquid manure, or both, should certainly be applied at the first watering after the thinning has been done. There are many excellent Vine manures on the market which may be depended upon to give satisfaction. In addition to the food they supply, the majority of them have the power of promoting surface root-action in a wonderful degree; and although I will not assert that the best of Grapes cannot be grown without chemical manures, I certainly do contend that it is much easier to grow Grapes of the highest quality by their aid than without them. We certainly see fewer badly coloured Grapes at shows now than twenty years ago, and the use of chemical manures has, I think, done much to bring about this desirable result.—H. D.

**Disa × Luna.**

The parentage here was *Disa racemosa*, the mother plant, and *D. Veitchi*, the male parent. The form is that of *D. racemosa*, and the colour a most pleasing shade of bright rosy purple or rose-mauve. The hybrid was exhibited, and received an Award of Merit, when staged before the Orchid Committee of the Royal Horticultural Society, on May 6, by Messrs. James Veitch and Sons, Limited, Chelsea.

The Week's Cultural Notes.

The large growing section of *Cymbidium*—such as *C. Lowianum*, *C. giganteum*, and *C. Traceyanum*—will be very active now, both at the roots and leads. They are thirsty subjects, and must not be allowed to suffer from want of water; few, indeed, among the Orchids need more just now. The only exception to this rule is just after the plants have been repotted. The roots having been disturbed, and, as it were, removed from their source of nutriment by the breaking of the spongiolae, no good, but evil, will be done by pouring water on the new compost, souring it, and rendering it unfit for the reception of the roots when they again make a start.

Watch these then, and endeavour to coax the roots by damping the pots and stages, but only very lightly moistening the compost until they show by the fresh green points that they are again becoming active. Then, owing to the fact that the new compost dries much more quickly than the old, very frequent waterings will be necessary. The best of all positions for these *Cypripediums* is a cool, moist, and shady corner of a house such as suits greenhouse Ferns and cool Orchids generally, the old idea that these species needed strong heat being by now quite dispelled.

Stanhopeas are beautiful Orchids, a good deal neglected by growers nowadays, and the usual stock of these consists of a few shabby old specimens hung up and half dried in a hot corner of the stove or East Indian house. Heat they do like, but the heat must be tempered by abundant atmospheric moisture; the roots must be well looked after in the matter of proper compost, and the leaves kept free of insects. This done and the flowering time arrived, no one will fall out with calling the majority of Stanhopeas very lovely Orchids.

In the cool house the sphagnum should if possible be kept growing about the bases of the plants. It keeps them cool and moist, and to the watchful cultivator is a good index to the condition of the compost as to moisture. There will probably be more repotting to do here too—any plants of *Odontoglossum* that for any reason were left out last year, for instance; also the *Maxillarias* and many of the *Lycastes*. These are all of moderately strong rooting tendencies, consequently the compost may consist of a little good loam mixed with the usual peat, moss, and charcoal or crocks.—H. R. R.

Notes from Ireland.

The lingering days of May were softened with moisture, and plenty of it, which was a pleasant introduction to June, besides allaying fears, as a parched appearance was discernible, and not only a probable but an absolute failure would have had to be recorded.

The losses due to insect attack appear to be very slight as yet; the reports of any serious depredations in the country are scarce. A dearth of news in this matter is no cause for grumble.

Spring has gone, bequeathing a floral harvest. Our Tulips have crept into the halls of rest for repose, and in all our establishments busy preparations for another festive display are being made, and "Onward" is the motto.

On a visit to Trinity College Botanic Gardens, the old-time *Camassias* arrested attention. When grown in clumps, their erect racemes suggest an *Eremurus* arrested in growth; besides, they are a desirable acquisition for the hardy border. Their bold foliage and handsome spike is invaluable, but their blooming period is short. Though natives of North America, they have a fairly wide distribution throughout that continent. They are closely allied to the Squill (*Scillas*). Of the many varieties offered, the following comprise the most valuable sorts:—*Cusieki*, a native of California, the flower spike a good purple; *esculenta*, another purple hued variety, a native of Columbia; and *esculenta flore-albo*, although it is often labelled *Scilla*

esculenta var. *flore-albo*, is a fairly good white, and a native of Columbia; whilst *Fraseri*, a pale blue, comes from Ohio and Texas, and is commonly termed the Missouri Squill. The North American Indians, who eat the bulbs of this kind and probably others, give it the appellation of Quamash. As regards cultivation, these bulbs will thrive luxuriantly in any good garden soil.

In the same gardens one of the best features is the Irises growing on a roof. The unique position really shows the hardy constitution of these members of *Iridæ*, as the quantity of soil permissible is very limited; in fact, although I am not sure, the roof was covered with extra thick turves, the bulbs or rhizomes being planted therein, and they have succeeded admirably. At present, several masses of flowers can be observed from the many walks that intersect this sylvan retreat.

The utility of early Peas for culinary purposes is self evident.

An easy mode of raising the same was brought home forcibly to me, although the method may have a wider practice than I am cognisant of, yet it is one not favoured by the fraternity in this isle. The manner in which Mr. Brown, gardener to Mrs. Henshaw, of St. Philips, Milltown, raises his, is as follows. On February 20 of this year he planted several seeds in a 10in pot and grew them in a greenhouse. The plants grew famously, and were fit to use before the end of May. The variety favoured was William the First. Considering that the late spring has been an unfavourable one for several years past, the above method commends itself. Taking for example the present year, I do not think I will be far out in estimating that the general pulling of Peas will be a fortnight at least later than the corresponding period for last year, so that the method of Mr. Brown or others is an easy remedy to have early Peas at the normal period when desired, despite the unfavourable circumstance of the weather. Of course, there may be exceptions, due to favourable situations, &c. Eliminating the favoured sites, the method as described has the advantage of being inexpensive, and is easy.

Amidst the rural simplicity of Glasnevin (although the

**Disa × Luna.**

Flowers bright rose-purple.

civilising tendencies of our age are gradually transforming it into a suburban retreat), the distinctive charm of the "Irish Kew" is unimpaired, and, fortunately, the modern builder has scarcely any opportunities to disfigure it by his grotesque conceptions of architecture, whose claim to fame is the ephemeral duration of his buildings, so that it can pursue its good work without any fear.

The Mountain Sandwort, as *Arenaria montana* is often called, is a very ornamental plant, with large, waxy-looking flowers. The pureness of its petals is an unquestioned white, whilst its habit is all that can be desired. It is a native of France. In the herbaceous borders, the tall *Eremurus robustus* commanded attention, and is blooming profusely. On the rockery was a fine plant of *Spiræa arguta*, and situated further down *Celmisia coriacea* had bloomed with at least five flowers. This *Celmisia* is a garden hybrid, probably from *spectabilis*, a native of New Zealand, and is a decided improvement on *spectabilis*. The flowers are pure white, with a clear yellow eye, and measure at least 2 in in diameter. The old variety *spectabilis* looked equally well, although its period of flowering is a little later, as it is a greenhouse plant, and in many cases, where in a warm position, sheltered from blasts, it has been able to withstand our winters with a little attention. However, those sites are nearer the south of this country, and I am unaware of its becoming established and flowering so free so near the centre as at Glasnevin. It would be interesting, if our gardeners would take the matter up and see if the area of its outdoor cultivation could be appreciably increased; if so, it would be a decided acquisition amongst our spring flowering rock plants. A good ordinary garden soil would be a suitable compost. Another handsome subject was *Cypripedium calceolus*, although the plant was yet small.—A. O'N.

V.—Botany in the Garden.

(Continued from page 395.)

The stem may be described as the ascending portion of the axis of a plant. In the very lowest forms of plant life no stem is present. Stems differ from roots in generally growing upward, in not having a cap of dead cells at the growing point, but instead generally a bud, in bearing leaves, and in giving off their branches exogenously, i.e., from more superficial layers of tissue than roots do. In some cases branches grow horizontally, or even droop, but even then there is generally a tendency to grow upward at the apex.

The functions of the stem are (1) To support leaves and flowers, and to connect the former with the roots; (2) When young and still green to assimilate, as do the leaves; (3) To act as reservoirs for food. Apparently the chief object in branching is to expose the leaves and flowers to as much light and air as possible. (Here is an important lesson gardeners may learn from Nature's ways.)

Not only do stems act as channels by which food passes from the assimilating organs to the growing parts, but, also, the elaboration of the food is to a great extent carried on in them. The young wood (alburnum) of trees and underground stems (as Potatoes) contain much sugar in autumn, which is converted into starch and stored for the winter. When growth recommences in spring the starch passes again into a soluble condition by the action of an acid called diastase, and is conveyed to the growing parts.

The stem originates in a bud called in the seedling plant the plumule, and, so long as growth continues, remains terminated by a bud. The points from which leaves spring from a stem are called the nodes, and the lengths between internodes.

The internal arrangement of the stems of the two great groups of higher plants differ markedly. In Monocotyledons (Grasses, Palms, &c.) they are usually cylindrical in section and unbranched, with no separable bark, and hardest at the outside. The internodes are often hollow. The Dicotyledons have at first generally green succulent stems, with a distinct epidermis, which in woody plants is thrown off. The bulk of the stem is made up of fibro-vascular bundles, separated by the medullary rays. If a plant has a stem 10 ft or more high it is usually called a tree. If less than this height, and much branched near the ground, a shrub.

Stems are generally round in section, though sometimes angular, as in the natural order Labiatae. The outer surface may be smooth (glabrous), furrowed, hairy, downy, bristly (setose) or prickly. Stems may be annual, biennial, or perennial. Herbaceous perennials have perennial underground stems, which send up annually branches above ground.

All branches originate from a lateral bud, and spring from the angle (axil) between the base of a leaf and the stem. One or more buds may spring from each axil, and are called axillary. Buds may grow from a cut or wounded surface in no regular order, and are then termed adventitious. When buds remain dormant during winter they are protected by an outer covering of scales, which are sometimes hairy (Willow) or sticky (Horse Chestnut). These scales are thrown off as the bud bursts in spring.

Stems may be erect, prostrate on the ground, ascending (growing upwards at the point), floating on water, twining, or climbing. Twining plants turn in particular directions in different species. Plants climb by adventitious roots, as Ivy, by hooked prickles (Bramble), by a rough surface (*Galium Aparine*), by twisting leafstalks (Canary Creeper), or by tendrils, as in the Vetch.

Different kinds of stems have various names. The unbranched stem of a Palm is called a caudex. The runner, or flagellum, is an axillary prostrate branch producing at its nodes buds that develop into plants. The offset differs from a runner only in being shorter and producing only a terminal bud. The sucker is a branch given off horizontally underground and then rising above the surface.—Wm. R. R.

(To be continued.)

Gadding and Gathering.

Laing's of Forest Hill.

The name and standing that the late John Laing, founder of this Forest Hill nursery firm, won for it, would seem to be most creditably maintained by his two sons, who are now the representatives of it. The business is a large one, and competently managed. It is a good sign to see new houses being erected in place of old ones, and the visitor to the plant houses and fruit tree nursery will be gratified to find cleanliness and progress the ruling watchwords. In a passing visit a few weeks ago, *Clivias* engaged my special notice and at Forest Hall a large span-roofed house is wholly devoted to them. The Laings have improved and produced variety amongst these handsome and early greenhouse flowering plants, as much as any other firm; and, in fact, few nurserymen have attempted to manipulate the *Clivias*, or *Inantophyllums*, as they are sometimes named. Some of the varieties are quite distinct in colour or in form, yet the difference in the great majority of them is very slight. The aim with Mr. Leech, the grower, is to deepen the crimson colouring, as it seemed to me; yet why not use the yellow flowered *Clivia* (*C. citrina*) to get varying shades of gold, orange, primrose, and salmon? Pure whites, or white and red mixed, might also in time be hoped for. It is Luther Burbank, "The Wizard of Horticulture," "on the other side," who said "species of plants, once thought to be fixed and unchangeable, are as plastic in our hands as clay in the hands of the potter or colour on the artist's canvas, and can readily be moulded into more beautiful forms and colours than any painter or sculptor can hope to bring forth." This being so, we will possess our souls in patience and expect much greater variety from among the *Clivias* yet. The sorts deserving notice at Laing's are: Lord Rosebery, with large flowers and trusses, and lighter in colour than Lord Kitchener, which is rich crimson with an orange throat. Mrs. Davidson is orange-carmine, and is distinct in having long, tubular flowers. Brilliant is much like the latter in colour, but King Edward VII. is perhaps peerless amid all. The rather short, open, bell-shaped corollas are rich glowing crimson or cerise carmine, with a splendid orange throat. Lady Sarah Wilson has pretty flowers, rounded in form. A variety with very long peduncles has been named *longiflora*, the flowers, too, possessing the attenuated character. It is recommended on account of its adaptability for cut flower uses, as in bouquet making. Standish Beauty and Duke of Teck are good in their way, and the variety Mrs. J. Laing is also of merit. Lady Donnington was enthusiastically shown to me, and its massiveness pointed to. The colour of the flowers is brick red, suffused with orange. Lady White, with reflexed segments; Beauty of Kent, brick red and pink; and King of Denmark with very large, rich salmon-orange trusses, were amongst many others that one found something of interest in, and beauty to enjoy. The unflowered seedlings are as numerous as the named cross-breeds, and time will prove their qualities.

I must very briefly refer to Laing's multiflora hybrid *Streptocarpus*, in a whole range of colours from spotless white to royal purple and richest blue. The *Gloxinias*, *Begonias*, and *Caladiums* were other leading features. I will append a list of *Caladiums*, and meanwhile would name among the many choice stove plants here cultivated the handsome *Leea amabilis splendens*, *Dracæna Veitchi* (most graceful), and *D. cannaefolia variegata*. The new *Asparagus Duchnesi*, somewhat like *A. Sprengeri*, from Linden's, is also here, as also a capital selection of hybrid *Anthuriums*, flowering well. *Ficus repens variegatus* is useful for indoor rockeries, or for adorning plant stages in any warm house. *Adiantum Farleyense*, and many other Ferns, are cultivated, as well as some *Cypripediums*. Palms for decorative purposes, in all sizes, occupy a large span-house by themselves, and a great variety of plants, indeed, occupy adjoining compartments. Dahlias and bedding plants fill many pits and frames, while, in the large twenty-acre fruit, tree, and shrub nursery there is an unlimited selection of forced plants now in flower, while in the open quarters the Ivies, Hollies, Roses, Laurels of all sorts, Almond trees, and extensive brakes of young trained Peach, Pear, Apple, and Plum trees are represented.—WANDERING WILLIE.



Rose Notes from Newton Mearns, N.B.

Once again the most interesting time of all in the year has come round, so far as the rosarian is concerned. After such a winter as the one which we have just experienced, the rosarian is waiting patiently at the beginning of the season to see if all is safe. The Rose enthusiast in the district has been looking forward to having a successful year with his plants. In the beginning of the season the growth of last year's wood to be cut away was much riper than for many years back. Pruning commenced about the middle of March, and at that time Rose trees looked most promising, and with the slight rain showers the breaking away of the buds soon commenced. With the approach of April growth ceased altogether on account of cold winds, which prevailed, and the sharp frosts experienced each morning. With the approach of May several degrees of frost were registered, and cold winds still prevailed. This had the effect of not only retarding the growth of the shoots of the earlier varieties, but has given the buds of the later kinds a dormant appearance. Many Roses in this district at the time of writing have shown no signs of breaking their buds yet. The varieties which have suffered most through blight are Mrs. W. G. Grant, White Lady, La France, Caroline Testout, Her Majesty, Marchioness of Londonderry, Marquis Lita, and Sheila. It is sad to see such beautiful shoots of 3in to 4in all blighted.

The Teas have escaped with less injury; but this is no doubt due to their winter's covering not being removed, and to cutting back later than the others, and giving better protection otherwise. A few of the varieties that have suffered by the weather are Golden Gate, Maman Cochet, Souv. de S. A. Prince, Souv. de Pres. Carnot, White Maman Cochet, and Ernest Metz. These varieties all showed signs of life in March, but the biting winds of April and May did great harm.

However, a welcome change in the conditions of the atmosphere has at last come, and rain has fallen. A certain amount of risk is attached to early pruning or thinning of shoots, especially in such atmospheric conditions as we were lately passing through. Feeding with liquid manure has been delayed on account of the late cold weather and absence of rain. The "worm in the bud" has made its appearance, but no damage has been done yet, the shoots being of little consequence. Wall Roses have suffered much from this pest, and handpicking appears to be the only remedy for this insect, which means a great loss of time to the rosarian. At the present time there is little hopes of having blooms for the Coronation week, and even although the weather should at last pick up, still Rose blooms shall be far distant in this district even at the beginning of July.—R., May 20.

Some Impressions of the Temple Show.

Let me explain at the outset that I am not new to Temple Shows. I have been to a good many of them, and on the morning of the 28th, when I passed through the shady courts, by the little fountain—sacred to the memory of Tom Pinch and his gentle sister Ruth—and on to the gardens, the great spread of canvas, the concourse of people, and the general air of everything seemed to appeal to me in the words of the showman at the fair, "Hullo! here we are again." Temple shows do not change much; perhaps there is no need for it, judging by the interest manifested year by year. But still, the fact remains. Every year the same tents are fixed in exactly the same places, the old faces seem to greet you—this is a great charm, for friends are met and acquaintances renewed at the annual gathering of gardeners on the banks of Father Thames—and, if you happen to be an old Temple show goer, you need no guide book, as you know pretty well where to find the principal exhibits. Some people chafe at this annual sameness, but how we should miss our old friend the show if it ceased to be! May that day be a long way off.

When I arrived most of the rush and bustle of staging was over, and those who had been hard at it since daybreak were getting a little respite, and comparing notes as to the amount of sleep they had had for the last day or two. The committees were on their rounds of inspection, burly policemen barred the opening to the marquees, and everybody outside seemed to have settled down to a state of waiting, when a whisper went round:

"The King and Queen.—They are going through, and will come out this way." Resting and waiting were forgotten then, except the waiting for their Majesties. There was no excitement, no fuss, no display. It was just a private view for all of us, and though the doffing of hats was the only demonstration, the welcome of the King and Queen amongst their gardener subjects was as loyal as it will be when they pass through the crowded streets on Coronation Day. They went as quietly as they came, and the word was passed round that their Majesties were delighted with all they saw. When they had gone people remarked to each other how well they looked, just as though they were speaking of intimate friends. This is the way gardening Britons treat their King and Queen.

A few years ago I remember several exhibitors set up little groups of plants outside the tents, presumably because there was no room for them in the interior, and the departure once made has extended year by year. Now it is an institution, and this season there was quite a display outside. A good idea too, for after jostling with the crowd in the heated marquees it was quite a relief to get outside and have a breath of fresh air with something to see at the same time. The Japanese pigmy trees, exhibited by Messrs. Barr and Sons in an open-fronted tent, attracted a good deal of attention, but it is amusing to see English gardeners sniff at that style of horticulture. Of the two, they seemed to prefer the topiary work shown by Messrs. W. Cutbush and Sons, though from the general remarks I overheard I do not think clipped trees gain much in favour. I think the outdoor group from Gunnersbury might have had a more prominent position, and probably some people overlooked it. The fan-shaped scented Pelargoniums, White Marguerites, and Water Lilies exhibited by Mr. Hudson formed one of the chief features of the outdoor show.

When the policeman at the entrance at last condescended to allow me to enter the big tent a curious thought struck me. Supposing I had fallen asleep there on show day last year and wakened in the same place this, should I have known that a year had elapsed? I scarcely think so, for everything seemed so familiar—the glorious bank of Roses across one end, the centre table laden with precious Orchids representing a fortune, the gaudy Caladiums banked up on the well-known lines, the Sawbridgeworth Nectarines (apparently the same trees and the same fruits as were there last year, though, of course, they were not, except, perhaps, the trees), the great collection of flowering trees and shrubs, the bank of golden Azaleas, and all the rest. I had seen them all before, or something very like them; but, bless you, one never thinks of that at a Temple Show. What did it matter if Smith's Clematises were not quite so good as last year? They were there, and there were beautiful specimens of many kinds all round that I must briefly comment on in the next paragraph.

Orchid lovers had plenty to attract their attention, though I fancy the aristocratic flower has been more largely represented at previous shows. Rare and beautiful blooms, however, were displayed in variety sufficient to be bewildering, and awards to novelties were freely given. Close to the Orchids were "Orchid Cannas," and Messrs. Cannell's representative had a host of inquirers round him. Rarely does one see such a collection of these showy flowers as was exhibited by the Swanley firm. I made a few notes myself for future consideration, and amongst the varieties that struck me most were Black Prince (a very dark flower), Duchess of York (spotted orange), and Elizabeth Hoss of something the same hue. The Caladiums shown by Messrs. J. Peed and Sons were quite up to their usual standard, but there was something flat and formal about the way they were staged. I could have lingered a long time before the magnificent group of flowering shrubs set up by Messrs. Jas. Veitch and Sons, which was indeed superb; but a crowd of other people were evidently of the same turn of mind, so I was jostled on.

Cutbush's corner struck me as being filled in a very pleasing manner. The successful attempt at artistic grouping presented a contrast to the solid banks of flower all round, and the Carnations, Roses, and yellow Richardias were superb. I was much taken up with the pretty pink Clematis Nellie Moser at one corner. Pink Pearl appeared to be the flower that attracted most attention in Messrs. J. Waterer's superb group of Rhododendrons, and this was not to be wondered at. It is a beautiful variety of a flesh-coloured pinky shade, and both petals and trusses are exceedingly large. What has been done in the improvement of hardy Azaleas was demonstrated by the group of these lovely flowers shown by Messrs. R. and G. Cuthbert. I observed that they got a Silver Cup; some people thought that a Gold Medal would not have been too much for them. At any rate, they made a grand display. "Oh!"—such was the long-drawn expression of covetousness of a young lady who looked with hungry eyes on Mr. Leopold de Rothschild's Cherries, which hung temptingly on the trees; but they were there to be seen, not eaten.

Beautiful Roses are no novelty at the Temple Show, and in spite of the backward season they seemed to be quite up to the usual standard. In accordance with the general order of things, I found the exhibits of famous growers where I expected to—in their old places. The two Pauls, the two Cants, Turner and Mount showed of their very best, and to say this means a good deal. Some time has passed now since Crimson Rambler made its début at the Temple, and still it remains a feature. Other Ramblers have come in, but not to oust the crimson, which yet remains at the head. Very beautiful were the two large arches of this variety in Mr. Chas. Turner's group. No one seems to know how to produce fine Roses on long stems better than Mr. G. Mount of Canterbury, and his boxes of cut blooms proved once more the value of the Rose, so grown, for decorative purposes.

I am inclined to wonder whether the limit has been reached in the way of tuberous Begonias. One thinks of Temple Shows at which the gorgeous single and the massive double flowers created sensations; but now everybody seems to expect them, and beyond a casual comment you hear little further. The Begonias are very fine; but then, we have got used to them, and this about explains the matter. There must be a limit, of course, as developments cannot go on for ever, and in comparing the Begonias of this year with those of last, it would certainly seem like it. Perhaps in time these flowers will be looked upon as having had their day at the Temple, the same as those lovely Show and Fancy Pelargoniums which I looked for in vain at the exhibition last week. One does see changes then, after all, in the way of certain flowers that used to be regularly exhibited and now are conspicuous by their absence.

But while some flowers have apparently lost their place at the Temple Show, others seem to more than hold their own. Was there ever such a display of hardy herbaceous flowers? Long tables were lined with them, and before one-half could be seen the visitor was bewildered with variety. There was the usual overcrowding, too, which everyone has grown used to by now, though it is none the less to be regretted. Naturally, the exhibitor wants to get as much as possible in the space at his command, but the decorative side is lost in consequence. The Tulips were beautiful, and would have been more so had it not been for the apparent desire on the part of exhibitors to get as many flowers as possible in each receptacle. Had a little more taste been displayed in the arrangement of the St. Brigid Anemones, staged by Messrs. Reamsbottom and Co. the effect of the exhibit would have been enhanced. In spite of this drawback, however, the flowers were very charming, and illustrated the beauty of this strain of Anemone.

I was very much struck with the collection of Primroses, Polyanthuses, and Auriculas which came from Dundee, partly because it was the only exhibit of its kind that I saw, and partly because I must confess to a weakness for these flowers. It is true there was a vegetable amongst them, in the shape of the new Albino Borecole, but its white and green leaves are quite beautiful enough to be associated with flowers. As for the Polyanthuses, they were charming, particularly the yellow, white, and crimson varieties. The same word describes the Auriculas, and, from the expressions I heard, plants of the same strain will be seen in many gardens next spring. One has grown quite used to seeing Sweet Peas at the Temple Show nowadays, and I observed several collections of these popular flowers. "Are they grown out of doors?" asked one lady, with reference to the above. "Because I sowed some last October and they are not out yet." She seemed quite satisfied when the attendant informed her that even Sweet Peas could be grown under glass.

It would be hardly fair to the fruit and vegetables if I did not give an impression or two on that section. Two very striking exhibits were the Apples staged by Messrs. G. Bunyard, of Maidstone, and J. Watkins, of Hereford. They showed plainly what can be done in the storage of fruit. Wonderful is the only word I can use to describe the collection of vegetables staged by that expert grower Mr. E. Beckett. Without a doubt he is master of the art of vegetable culture, and to others than himself how he manages to get such produce at the time of the year is a matter of surprise. Apart from this collection, vegetables were not very abundant. Messrs. Jas. Carter and Co. had some nice Peas and Beans, and Messrs. H. Cannell and Sons staged a "row" of Peas; but the vegetables of the famous Reading firm were much missed. By the way, I did not see the name of Sutton anywhere, and understood that they were not showing. Why not, I wonder? I have seen better collections of indoor fruits at previous shows, though the exhibits staged by A. Henderson, Esq., and P. Ralli, Esq., were both meritorious.

In regard to the show as a whole, everybody seems satisfied without being particularly enthusiastic. There was no special

plant or feature or exhibit to overshadow other things and set everybody talking. Indeed; there was a lack of novelties, and Temple showgoers have got so used to good things that it has to be something distinctly new or remarkable which arouses enthusiasm. I asked the opinion of three different friends, and, strangely enough, agreed with the answers given by all of them. "It's a fine show," said the first. Of course it was. "Much the same as last year," replied the second. Again I agreed. "Not much that is fresh," observed the third, which was quite true. I believe there are good reasons why Temple Shows cannot alter much, on account of the restrictions regarding ground, tents, and so on; but there is charm in variety, and one would think that some changes could be made so that one show would not be quite such a repetition of its predecessors in so many particulars.

There is one thing about the show that one never wishes to see changed, and that is the social side. The green sward of the Temple Gardens is the Mecca of the horticultural fraternity, and the meetings and the handshakings were as numerous and hearty this year as ever. The showers on the opening day upset the afternoon tea arrangements a little, and probably made the ladies feel anxious about their dresses; but there was not enough rain to affect people's spirits, and the heat was not sufficient to make the tents unbearable. Society mustered round the bandstand, and here and there were the usual little groups of men talking earnestly together. They were gardeners, of course, who probably had not met since last show time, and had many things to talk over. Which had the most attraction for them—the show itself or the friendly meetings on the turf outside the tents? I ask the question, but it can only be answered by the individuals themselves.—G. H. H.

Judges, Officials, and Friends at Edgbaston.

Following the announcement made in our report of the Midland section of the National Auricula Society's show, held in Edgbaston Botanic Gardens on April 30, we have pleasure in presenting a reproduction of the photographic group then and there taken. The names are furnished under the illustration on page 489, and include, as will be seen, those of England's most celebrated "Auriculists," allowing, of course, for the absence of some of the renowned southern growers. Perhaps never before have five such ardent admirers and successful exhibitors of the Auricula as those shown as seated been swooped into one short line, in one little photograph. Richard Dean, the grower, orator, writer; Rev. F. D. Horner, perhaps chief of the cult; with John Pope, grower and distributor; Ben Simonite, winner of many prizes, and Richard Gorton, as typical of the old-school as any, and a raiser of meritorious sorts. Mr. W. Gardiner, chief Journal representative around Birmingham, in Napoleonic pose defends and dignifies the right (or left?) wing, and our good friends Mr. Holding, Mr. Bentley, and Mr. Lathom are amongst others who are more particularly known to us. "While the earth remaineth," the dear little "Dusty-millers" will yearly awaken in fragrance and chastity to delight us, and they will ever be respected and greatly tended by a devoted coterie, and though the old hands, one by one, will pass away, their sons and sons' sons will assure the continuance of a sweet inheritance.

"W. G." writes: "You will observe that we represent the clerical element in the shape of a 'Pope,' 'Dean,' and a 'parson' (Rev. F. D. Horner), seated upon the same bench. R. Dean loses cast by the non-removal of his cap!"

Badminton.

In the West of England what place is more familiar by name than Badminton, or title more popular than that of the Duke of Beaufort? Name and fame of Badminton extend far beyond the confines of its own county, Gloucestershire; not, perhaps, because of its own environment so much as that of traditional association with fox-hunting. For generations past Badminton has been the ancestral home of successive Dukes of Beaufort, and great as has been their personal influence of the past, the present Duke of Beaufort proves by his amiability of nature, business capacity, and enthusiasm for fox hunting to be equal to modern times and its requirements. The upkeep of such a huge establishment entails an enormous expenditure. The equipment of the stable alone, with its complement of 200 hunters, is a large item, and the kennels are not much less important an annexe. Of the stables, kennels, and motors it is not my

purpose to write, but rather of the gardens, which were revisited after a lapse of some twelve or more years, though, as might be expected, the present time of year is not that best chosen to seek fresh records. Badminton's gardener, however, is such a fund of resource that in his company even the freshly dug and unplanted garden plots can be made interesting, and even the refuse heap gives forth interesting theory, as well as its more practical worth. Gardening here must necessarily be made practical, fruits and vegetables in their season in particular pressing heavily in their demands on the resources from which it is drawn, and the limited staff that are entrusted with its production. In Mr. Nash the capacity for hard work is almost proverbial; indeed, one would almost learn that to him work was perfect recreation. On Saturday afternoon when the toilers of the week cease their active occupations, Mr. Nash finds evident enjoyment

neglected garden is the one that provides trouble both for the present and future. As long as Mr. Nash maintains his present health and activity, weeds will find in him a vigorous agitator.

Apart from the great demands that are associated with the home supply, for twenty-four years Mr. Nash proved himself an enviable exponent in the art of exhibiting fruit. His Grapes will be long remembered for their perfect finish; Peaches, Nectarines, Apricots, Figs, Melons, Pears, and other fruits for their fine colour, large size, and high quality. For a series of nine consecutive years Mr. Nash won the Bath City's chief prize for a collection of Grapes at their autumn show, and miscellaneous collections of fruits rarely failed to enlist other than the Duke of Beaufort's name on the first prize cards. At other near and distant exhibitions there are records of success well won, and well deserved. It is by



Photo by

A Tuigg, Birmingham

Back row (from left to right)—1, Miss E. Brown (daughter of A. R. Brown); 2, James Douglas, Junr.; 3, A. R. Brown; 4, C. Edmonds; 5, A. W. Jones; 6, W. B. Lathom; 7, E. Longbottom; 8, W. H. Migdley; 9, Tom Lord; 10, J. W. Bentley; 11, R. Holding, secretary; 12, — Taylor (Phillips and Taylor); 13, F. T. Poulson; 14, A. Chatwin; 15, T. Godwin; 16, E. Danks; 17, J. Clements; and 18, W. Gardiner.

Those sitting are (left to right)—R. Dean, Rev. F. D. Horner, John Pope, Ben Simonite, and R. Gorton.

Judges, Officials, and Friends at the Edgbaston Auricula Show.

in work while, as he says, it is quiet. His thirty years' charge at Badminton does not abate his ardour, nor his extreme activity.

The gardens, mostly enclosed in 14ft walls, extend to eleven acres or more in their area, there being three enclosures, varying in their acreage from four downwards. Being sub-divided thus, provision is made for extensive wall gardening, as well as borders possessing warm and cool aspects. Most undermanned gardens reveal their state in neglected trees and weedy plots; but Badminton gardens do not give countenance to any such, but rather tend in a more favourable direction. More perfectly trained trees one could scarcely hope for, and the absence of weeds—well, what gardener does not yearn for this order of things without its frequent realisation? No garden is weed proof—a useful labour institution would be absent were it so—but the

its fruit that Badminton Gardens are known in the exhibition hall or marquee.

Glass, though extensive, is not by any means modern; yet the fruit production is none the less satisfactory because of this. Mr. Nash has much respect for aged Vines, and, judging by present appearances and prospects, he has every reason to stand by the veterans of the past. Many of the Vines, I believe, are much over sixty years in age, and, if I mistake not, there are but two among the whole that can claim to be less than thirty years of age. Despite their years and excellent work of the past, they are to-day as vigorous and fruitful as the average five-year-old, and with good root manipulation promise to go on many more years. Mr. Nash is a great advocate for root cultivation, and though some of his feats with the veterans seem somewhat severe, there would appear to be a mutual agreement between the two

that combine to make progress and prospect all assuring. Extension of rod and root is favoured in a modified degree both with Vines and Peaches, and new turfy loam, which, fortunately, is available in plenty, tends towards that contentment of the trees and their chief. Large bunches of Grapes are now the desideratum of the table so much as those of medium size and plenty of them; but the hall mark of quality is not wanting because of this. Black Hamburgs that grew last year were credited by some to be Colmans, not, of course, by Grape experts, but by those who, at least, had some knowledge of Hamburg and Colmans. This is related only to illustrate the quality of the Grapes when cut from the Vine, and those who have for so long a term continued in such a satisfactory state. Except in one instance the Peach trees are of modern time, there were periods when one specimen filled its own structural compartment. Generally speaking, the Peach tree does not rise to the span of fourscore years as does the Vine; but they do sometimes, as they have here, attain to great age and proportion.

Melons are not grown in large numbers, and these, when ripe, find use only among visitors to the house. Cucumbers, on the other hand, are more generously treated. In connection with these, an interesting item was elicited—the stock of to-day is the same as that of thirty years ago, with an unbroken succession. The fruit is not large, but yet of convenient size for everyday use, and deserving, one would think, of the popular style and title, "Come to Stay." Strawberries are forced in large numbers, the old Vicomtesse sharing space with the newer Royal Sovereign, and both in mutual agreement. Outdoors these grow with remarkable vigour, for, with rows divided by a yard space, this does not give room for fruit and runners.

Though fruit, including Apples and Pears, are confined to the garden alone, twice only in the past thirty years have Apples been so scarce as requiring to be bought for home use. It is not a little extraordinary that with so large a demand there should be sufficient even in ordinary times, when one surveys the extent of trees called upon to furnish it. Nineteen years has elapsed since there was a dearth until last year, then Apples were so universally scarce. One insurmountable grief which Mr. Nash relates with some pain is that no less a space than 240yds length of wall remain unprofitable on the western side, because of the close proximity of the tree belt which serves as a screen and shady pleasure walks. Tree screens are great protectors of the home garden, but there is considerable loss when their contiguity is such that the leafy boundary walls cannot be utilised.

The frame ground shows that forced crops are looked for in goodly quantity. Good stable manure, in almost unlimited quantity, is seen producing spring and summer crops in its fermentation and preparation for use on the land. Mushroomis, too, are well and extensively grown in the open air and inside. My last visit was a summer one, when the open air beds were in fine form, and would, if photographed, provide excellent testimony to the quality of the spawn, and not less so to the necessary detail in Mushroom growing carried out.

Flowers and plants in the house become a drain on the resources, because the glass accommodation was originally intended more for fruit than for plants; but modern requirements are respected, and the best means applied for meeting it. The outdoor borders, with bulbous and other flowers, are valued aids in augmenting the indoor stock, and while they afford these means of relief to the glass departments, brightness is imparted to the otherwise dull vegetable and fruit quarters. Tree Pæonies flourish in the garden borders such as I have not seen elsewhere, and it is computed that they have survived considerably more than a hundred winters. In their season, these huge bushes must be indeed a fine sight. A bed of Spanish Irises have been enviously admired by the unlearned among visitors as an unusually fine bed of Onions, when seen in their early stages of growth, and they would, no doubt, be just as much admired when in bloom. The great expanse of park land, with its wealth of tree life and noble avenues, together with the vastness of the house, stables, kennels, and other buildings, combine to dwarf the extent of flower gardens, borders, and lawns; but though there is an absence of the broad expanses of closely mown lawns, there is, nevertheless, a considerable area that afford work both for summer and winter and pleasure for the noble owners as well as visitors.

Roses appear to find a very congenial home in the garden set apart for them, sets of iron arches with the festoons of vigorous summer Roses trailing freely over them must be a very fine sight. In this garden are two very fine Maidenhair Trees, *Salisburia adiantifolia*, which find many admirers. Tea Roses are those most favoured, which are present in goodly numbers and in large vigorous bushes. Under shady trees in a secluded corner the Duchess' rock garden is situated, and which is tended and planted mostly by her own hands. Naturalised bulbous flowers were occupying one of the breadths of open lawn, this being a creation of the Dowager Duchess of Beaufort, who had a great fondness for wild gardening. Dean's hybrid Primroses skirt the shrubbery borders in their varied and distinct colours, and in the flower beds, Tulips and other roots, Wallflowers, Forget-me-nots, and such like are used for spring displays. A huge clump of berried Aucubas were a striking feature at Badminton, and for decorative purposes are found most useful. The berries are the outcome of the association of male and female plants growing in close contiguity. These ornamental shrubs are far more interesting and beautiful when laden with bright berries. During the festivities connected with the recent visit of the Prince and Princess of Wales, this was freely used by Mr. Nash in the portion of the home decoration entrusted to him, and which required over half a mile of festoons.

Badminton, with its portcullis heraldry everywhere, bears the impress of a ducal owner and resident, the interest of the mansion and township appear to be so closely associated that the whole seems as one. During the summer months holiday seekers make their way thither in great numbers, attracted, no doubt, by the importance of the varied equipment of so large and important a domain. Privileged, too, by a general patron of rural sport, visitors would seem to find no restraint in the inspection, stables, kennels, park, gardens, and state rooms of the house which afford ample scope for a day's enjoyment to the "trippers." A distance of eleven miles separates the nearest station on the G.W.R., Chippenham; and seven from Yate on the Midland. This will soon be changed, a new line being in course of progress with a station at Badminton.—W. S.

Gardeners' Royal Benevolent Institution.

At the sixty-third anniversary festival dinner, held in London on May 28, his Grace the Duke of Marlborough presiding, we noticed amongst others present the Archdeacon of London, Lieut.-Col. Pilkington, M.P., Rev. J. H. Pemberton, with Messrs. H. J. Veitch, Geo. Monro, G. Rochford, Jas. Douglas, O. Thomas, A. Piper, R. Dean, G. Bunyard, A. H. Rivers, Jas. Hudson, W. Crump, P. Kay, W. Sherwood, E. T. Cook, H. B. May, J. Baker, P. R. Barr, H. J. and W. Cutbush, Jas. Laing, W. Poupart, E. Wythes, and D. Ingamells, the company numbering altogether 158.

The Duke of Marlborough, though younger than preceding occupants of the chair, did well in laying the aims and claims of the institution before the friends assembled. The loyal toasts were drunk, musical honours accompanying the toast to His Majesty the King. His Grace, in a speech not too long, and containing good and original smiles, advocated the greater support of this institution, whose existence is for the benefit of gardeners who in old age have not the means to support themselves. His Grace referred to the adornment of the table that evening with beautiful flowers, and to the wonderful interest and pleasure which people of all classes derive from gardens and plants and flowers. And while it is to gardeners that the public are indebted for these pleasures, constituting as they do a large part of mundane joys, can we pass over without a thought those instances where impecuniosity saddens the last days of many aged gardeners, and adds greater grief and pain to the unsuccessful, yet honourable, toiler? No institution similar to the Gardeners' Royal Benevolent exists in either the United States of America, France, or Germany. During the sixty-three years of the society's usefulness it has distributed £100,000, and to meet the constant output it is imperative that all who are prosperous should combine to assist those who are less fortunate than themselves. The institution was one that should recommend itself to all gardeners and to those connected with gardening, or who derived pleasure in this direction. The chairman coupled with the toast the name of Mr. Harry J. Veitch, who replied. He expressed the hope the good dinner they had enjoyed and the able speech the chairman had delivered would together act beneficially, and cause an

unloosening of the purse-strings. Mr. Veitch, on behalf of the committee and institution, thanked his Grace for the interest he had exhibited. He made a passing reference to the presence with them of Mr. George Monro, who had been seriously ill last year at this date. Mr. Nathaniel Sherwood's absence was much missed and regretted, but Mr. Veitch was able to give hopes of this respected gentleman's early and complete restoration to business activity and to social communion. The treasurer stated that 190 pensioners are receiving assistance, two of whom are each ninety-four years of age, and both have been nineteen years on the funds. He jocularly remarked that these two worthies, in common with numerous others, had come to the institution with excellent medical certificates as to their extreme ill-health! The youngest pensioner is fifty years of age, but is totally blind. As a rule no person is elected until sixty years of age, unless in very exceptional cases.

The Good Samaritan Fund is doing splendid work. It was formed for the purpose of giving help to those in real need while waiting to be elected to the full pension. Mr. Veitch read a number of touching letters from persons who have had benefits from the institution from time to time. Letters so full of fervency could only come from those who had experienced extreme necessity, and in order to support such very deserving cases it is essential that every means should be taken to augment the annual income. The institution exists for gardeners of England, Scotland, Ireland, and Wales—it has no individual nationality, but opens its doors to all. This is a fact overlooked by most of the gardeners outside the southern parts of England. Could the funds be increased, how much more might be done! With only one election annually, and sixty persons seeking to be elected where only a score of places are vacant, the committee feels that it can assist only a section of a necessitous band. The money is usually sent through the clergyman of the parish or through someone well known and responsible. The working expenses of the institution are exceedingly light. The members of committee are all honorary, and the office staff and expenses are, indeed, very limited, and could not be more economically conducted. These matters were expressed by Mr. Veitch by way of showing that monetary contributions are directly applied to the cause for which they are given, and everything that can be done is done to save, augment, and judiciously utilise the funds.

Lieut.-Colonel R. Pilkington, M.P., next proposed a toast to "Horticulture," which was responded to by Mr. W. J. Jeffries in the absence, through illness, of Mr. A. W. Sutton; and the last toast, that of "The Chairman," in the hands of Mr. Geo. Monro, was very tactfully delivered and courteously replied to. Following this, the secretary, Mr. Geo. Ingram, announced the names of the chief subscribers, furnishing a total of £1,800.

The Chairman £25, Messrs. Rothschilds 100 guineas, Baron Schröder £50, M. J. Sutton £50, A. J. Sutton £50, N. N. Sherwood 25 guineas, H. J. Veitch 25 guineas, Lieut.-Colonel Pilkington £25, Covent Garden Table £134, and many other sums.

The musical programme was under the direction of Mr. Herbert Schartau, assisted by Miss Marian Iceton, Miss Edith Clegg, and Mr. Robert Radford. Miss Ethel Marsh gave delightful violin solos, and Mr. Valentine Hill's humorous recitation was greatly appreciated.

Iris orientalis (syn. *ochroleuca*)

There are some very interesting old plants which have been figured in the older volumes of the "Botanical Magazine," and when time permits one often turns over with pleasure the pages of the volumes in one's possession, though this is a little provocative of the desire to have a complete set of this valued and valuable work. Thus, the other day I came across the old *Iris*, generally known in the gardens where it is known at all as *ochroleuca*, but now called *orientalis*, which is rather confusing because of the variety of *sibirica* which bears that name. The plate gives a very good representation of the flower and a portion of the stem and foliage, showing well the ivory-white of the groundwork of the blooms and the ochreous yellow which occupies a considerable proportion of the blooms. The flower is not to be compared in dimensions with those of the popular "German" *Irises*, but resembles more in general appearance, and, indeed, in the whole character of the plant, that of our native *I. pseud-acorus*. Like that species, too, it is a moisture lover, and is well suited for naturalising by the sides of streams or ponds, or in the moist positions to be found almost in all "wild gardens," those delightful features of many a noble demesne nowadays. Its clustered flowers on their 3ft stems look very pleasing in such places in June, and at other times the leaves themselves are welcome to those who appreciate the sword-like foliage of so many of the plants of this fine family. From the "Botanical Magazine" I learn that it was known as *Pococke's Iris*, from it having been introduced to this country by Dr. Pococke. —S. ARNOTT.

NOTES

NOTICES

London Dahlia Union.

A grand Dahlia competition has been arranged for September 16, 17, and 18, to be held in the Royal Aquarium, Westminster, and a schedule of prizes has been issued. This can be had from Mr. Richard Dean, 42, Ranelagh Road, Ealing.

National Fruit Growers' Federation.

The first meeting of the provisional committee of the above society, as announced by us last week, was held on Wednesday, May 14, at the Westminster Palace Hotel. There was a good attendance, the following leading growers being present: Messrs. Herbert Leney, A. White, G. E. Champion, F. Smith, E. Neve, G. Farmer, W. W. Skinner, A. Miskin, and W. Cable, from Kent; A. Grant, Cambridgeshire; Colonel Long, M.P., and Mr. Idiens, Worcestershire; W. Craze, Cornwall; H. F. Getting, Herefordshire; W. Bracey, Norfolk; A. H. H. Matthews, Secretary of the Central Chamber of Agriculture; and A. T. Matthews, late Secretary of the National Agricultural Union. Telegrams and letters of approval and regret for non-attendance were read from Colonel Warde, M.P., H. Wickham, W. Wing, R. C. Champion, Colonel Willan, J. H. Best, J. W. Lawry, W. Shand, Jas. Wood, W. Kruse, W. Ellis, J. Boorman, and others. The headquarters of the federation will be in London. The minimum annual subscription was fixed at 10s.

Death of Mr. Wm. Bull.

The founder of the nursery firm whose quarters are in the King's Road, Chelsea, died on the morning of June 1, after only three days' illness. Born at Winchester, in Hampshire, he was educated privately at Shirley, near Southampton. When barely fourteen years of age he entered his floricultural career at a nursery in Winchester, but soon removed to Messrs. E. G. Henderson and Son's Nursery, at St. John's Wood, London. After a number of successful years' experience he became a traveller for this firm at the age of twenty, and at twenty-six he was invited to join Messrs. Wm. Rollisson and Sons, of Tooting, also in the capacity of traveller. While so engaged he toured throughout the United Kingdom and in nearly every country of Europe, much to the gain of his employers. He desired a partnership at the age of thirty-two; but matters were not satisfactorily arranged with the firm, and Mr. Bull therefore determined to open a business of his own. In January, 1861, he acquired the property, now his freehold, in the King's Road, Chelsea, S.W., and from that time onwards there was no looking backward. His business literally progressed by "leaps and bounds," and stands to-day in an enviable position. Mr. Bull was the introducer of numerous well-known decorative plants, among which may be named *Jasminum nitidum*, *Aristolochia elegans*, *Dracæna Victoria*, *Ficus radicans variegata*, *Phoenix rupicola*, and numerous good Orchids, for which his establishment has long been renowned. The "Economic Metropolitan Review" remarks that when the Coffee plantations of Ceylon were devastated by the parasitic micro-fungus, *Hemileia vastatrix*, it was Mr. William Bull who boldly came to the rescue by supplying the planters in their time of distress with a variety from Liberia that was much more robust. Of this new and vigorous kind of Coffee plant tens of thousands of sturdy seedlings were shipped from the Chelsea establishment to almost every Coffee growing country—notably, to Ceylon, the Dutch East Indies, Brazil, and Central America. He was the inventor of an improved plant case for exporting plants in. The late gentleman was one of the favoured few selected to receive the Victoria Medal of Honour granted by Her Most Gracious Majesty as a special mark of favour to horticulturists in the year of Jubilee; was a Fellow of the Linnæan Society, the Royal Geographical Society, the Zoological Society, the Royal Horticultural Society, and the Royal Botanical Society; a Member of the Society of Arts and of the Anthropological Institute. Mr. William Bull was also a Member of the Société Royale d'Agriculture et de Botanique de Gand, the Société Nationale d'Horticulture de France, and of the Horticultural Societies of Berlin and St. Petersburg.

Southampton Summer Flower Show.

The annual summer show and Rose exhibition of the Royal Horticultural Society of Southampton will be held on the Royal Pier on Tuesday and Wednesday, July 1 and 2, 1902. Mr. C. S. Fudge, 6, College Terrace, London Road, Southampton, is the secretary.

Veitch Memorial Medals.

Amateurs of Roses and gardeners are reminded that in addition to the Silver Cup offered as a First Prize by the Royal Horticultural Society in Class 9 and also in Class 15 of the Schedule of Prizes to be competed for at the Conference on Roses to be held in Holland Park, Kensington, on June 24, the trustees of the Veitch Memorial Fund will award a large silver medal, suitably engraved, to the winner of each of these cups.

Baptist Church, Wem, Shropshire.

It is proposed to hold a sale of work, &c., in connection with the above church, during the month of July next. The sale will be held in the grounds of the Rev. Isaac Watts, Trentham House, Noble Street (pastor). The friends here will do their utmost in preparation for the event, but must rely upon the generous help of others at a distance. Will you kindly assist us in our task? Contributions of articles useful and ornamental, preferably the former, will be welcome. Any saleable goods—such as plants, provisions, live or dead stock, dairy produce, &c.—will be most thankfully received, and may be sent to Mrs. Eckford, Wem, Salop.

A London Battle of Flowers in Carriages.

On June 12, 13, and 14, at the "Paris in London" Exhibition, Earl's Court, London, the authorities have arranged to hold grand battles of flowers, with dramatic fête, carnivals, and illuminated pageants similar to those held at Paris, Nice, Cannes, and other places. The entire receipts will be devoted to the benefits of French charities in London and elsewhere in the country. One hundred and fifty magnificent banners will be awarded to the successful competitors. Elaborate preparations are being made, and a brilliant event is expected to result. For particulars of entry and other information we would direct applicants to Mr. Imre Kiralfy, Chairman Fêtes' Committee, Tower House, Cromwell Road, S.W.

Flower Boxes Gratis.

The distribution by the Glasgow Corporation of boxes of growing plants for display at the windows of private houses (an idea copied from Liverpool) was so much appreciated by the citizens when started tentatively two years ago, that, but for the extra work thrown upon the Parks Department by the Exhibition, the number would have been largely increased last year. Now that Mr. Whitton's staff have more time to devote to the development of the scheme, the number of boxes is to be doubled this season, which means that no fewer than 1,200 will be distributed amongst those applying for them—a work which will be undertaken next month, and one which would have been accomplished earlier but for the backwardness of the spring. Householders pay a shilling deposit per box, this being refunded when it is returned to the department at the end of the season.

Sussex Weather.

The total rainfall at Abbots Leigh, Haywards Heath, for the past month was 2.44in, being 0.76in above the average. The heaviest fall was 0.28in, on the 29th. Rain fell on twenty days. The maximum temperature was 73deg, on the 31st; the minimum, 28deg, on the 14th. Mean maximum, 59.30deg; mean minimum, 39.25deg; mean temperature, 49.27deg, which is 3.76deg below the average, and the coldest May during the last fourteen years with the exception of that of 1894. The first twenty days of May were extremely damp and cold. There was rain (often mixed with hail) on sixteen days, and on the same number of nights the temperature fell below 40deg, and on eight of these it fell below 36deg, which means frost on the grass. Potatoes were cut on the 5th and again on the 14th right to the ground. Plums and Gooseberries in our case have all gone off; Black Currants nearly as bad; many of the Pears are cracking, and will come to nothing. It is too early yet to say what the Apples may do. The bloom of the Laburnums (in some cases) and Wistaria have been destroyed, and the young growths of Ampelopsis, Ivy, and other things not usually injured by spring frost, are much blackened. In some well-sheltered places things are not quite so bad.—R. I.

Royal Horticultural Society.

The next Fruit and Flower Show of the Royal Horticultural Society will be held on Tuesday, June 10, in the Drill Hall, Buckingham Gate, Westminster, 1—5 p.m. A lecture on "Weeds of the Garden" will be given by the Hon. Mrs. Boyle at 3 o'clock.

Daily Harvest Weather Forecasts.

The Meteorological Office are prepared again during the harvest season to supply forecasts of weather by telegraph to persons desirous of receiving them. For full information, application should be made to Mr. W. N. Shaw, Secretary to the Meteorological Council, 63, Victoria Street, S.W.

Colorado Beetle Re-appears.

The Colorado beetle has again made its appearance at Tilbury Docks. Potato growers are requested by the Board of Agriculture to carefully examine their plants and send them to the Board without delay for identification specimens of any insect suspected to be the Colorado beetle. The Board will be pleased to supply copies of a leaflet, with a coloured illustration of the beetle, post free and free of charge upon application.

Red Carnations Banned.

Paragraphs have been appearing recently in nearly all the German papers that the favourite flower of the Kaiser is red Carnation, and that Prince Henry for that reason brought from America several bunches of these flowers. The great item of news spread to Aix-la-Chapelle, where the Kaiser is expected on June 19. It was decided to act upon the brilliant suggestion that everybody should wear a red Carnation. They have since discovered, much to their chagrin, that the flower is the emblem of the Social Democrats, and is by no means favoured by the Kaiser. This they learnt through the chief of the police, who has forbidden it to be worn.

May Weather at Belvoir Castle, Grantham.

The prevailing direction of the wind was N.; total twelve days. The total rainfall was 2.74in; this fell on twenty-two days, and is 0.38in above the average for the month; the greatest daily fall was 0.51in, on the 31st. Barometer (corrected and reduced): Highest reading, 30.452in on the 25th, at 9 a.m.; lowest reading, 29.204in on the 17th, at 9 p.m. Thermometers: Highest in the shade, 68deg on the 31st; lowest, 30deg on the 6th and 7th; mean of daily maxima, 54.16deg; mean of daily minima, 39.12deg; mean temperature of the month, 46.64deg; lowest on the grass, 26deg on the 2nd; highest in the sun, 120deg on the 24th; mean temperature of the earth at 3ft, 46.77deg. Total sunshine, 150hr 50m, which is 37hr 3m below the average for the month; there was one sunless day. This has been the coldest May here for many years. The earth temperature is also correspondingly low, and all garden crops are later than usual.—W. H. DIVERS.

Illustrations of Temple Show Groups.

On various pages of this issue there are illustrations of groups and collections which formed features at the Royal Horticultural Society's Show in the Temple Gardens on May 28, 29, and 30. Messrs. Webb and Sons, Wordsley, Stourbridge, exhibited an excellent strain of herbaceous Calceolarias, and a photograph of their tasty group appears on page 499. Two pages forward (page 497) is represented Lord Aldenham's most creditable collection of early vegetables, grown and shown by his skilful gardener, Mr. E. Beckett, Aldenham House, Elstree. A report of this exhibit was printed on page 479 of our previous issue. And Messrs. J. Veitch and Sons' (Limited) group of Caladiums, Nepenthes, and hybrid Cattleyas, with other Orchids and choice decorative plants as arranged at the Show and reported upon at page 470, is depicted this week on the right-hand central page (493). Lastly, there is Leopold de Rothschild's pot Cherries grown and brought forward by Mr. James Hudson from Gunnersbury House, Acton. We commented on the very promising and creditable state of the trees some time ago in these columns, and the ultimate results have fully verified the earlier expectations. Unfortunately, our illustration on page 495 is vague, and in no way defines the form or the variety of this excellent group. Grapes, Bananas, Plums, Strawberries, Cherries (fruits), and Nectarines were exhibited in baskets in front of the pot Cherry trees, the latter representing a number of the best early varieties.

Pomological Notes.

Melons.

In houses or hot-water heated pits where the fruit is ripening, a rather dry and warm condition of the atmosphere will be required, allowing a circulation of air constantly, moderating the water at the roots, but if the soil be kept too dry the foliage will suffer, and the fruit deteriorate in juiciness and quality, while the prospects of a second crop will be seriously interfered with if not rendered impracticable. When the crop is cleared prepare for another. If the plants have fallen a prey to red spider thoroughly cleanse the house with softsoapy water, the glass with water only, limewashing the walls, and removing the whole of the soil. If fermenting materials have been used for bottom heat add some fresh, and mix with the top 18in or 2ft of the old material, some of the most exhausted being removed. Make

fruits are as many as a healthy plant can bring to maturity, good in size, and of perfect finish, of fine luscious quality. Plants swelling their fruits should have liberal supplies of water, supplying liquid manure or top-dressings of fertilisers washed in, additions of fresh soil being made to the hillocks or ridges as the roots protrude.

Young plants in frames with the shoots trained over the surface must be thinned to four, taking two to the front and two to the back, keeping the laterals rubbed off to 6in from the main stem and pinching the principal shoots when 15in to 18in from the sides of the frames or pits. The laterals will show fruit at the first or second joint, and the flowers being fully expanded, fertilise them about noon on fine days, leaving a little air on constantly to prevent the condensation of moisture, a moist, close atmosphere being fatal to a good set. Pinch out the points of the shoots one joint above the fruit, and after three or four fruits are set upon a plant, remove all others. Keep the laterals



Temple Show: Messrs. Veitch's Caladiums, Orchids, Nepenthes, &c.

firm, put in ridges or hillocks of good strong loam; if not calcareous add some old mortar rubbish and road scrapings if deficient of grit. Tread well down in a couple of days, as the shorter jointed and more sturdy the plants will be, also the more fruitful, and the fruits more solid. In planting, too, make the soil firm about the roots, and the soil and ball being moist, no water will be required until the plants have taken to the fresh soil. Shade for a few days from bright sun, and maintain a genial condition of the atmosphere by damping the paths and other surfaces in the morning and early afternoon. Maintain a night temperature of 65deg to 70deg, 70deg to 75deg by day, ventilating between those degrees. Keep through the day 80deg to 85deg or 90deg from sun heat, and close sufficiently early to maintain the latter temperature for some time.

Plants in flower require a little air constantly, with a free circulation on fine days, fertilising the flowers as they become fully expanded, and when a sufficient number of fruits are set on a plant remove all others and all flowers. Three or four

closely pinched, and thin them if likely to crowd the principal leaves. Afford liquid manure, but keep it from the foliage, and sprinkle the plants in the afternoon of fine days, but not over the stems, closing about 3.30 to 4.0 p.m., or so early as to raise the temperature to 90deg or 95deg, and ventilate early in the day, or from 7.30 to 8 a.m., gradually reducing the temperature after keeping through the day at 80deg to 85deg or 90deg. Keep a sharp look out for aphides, and fumigate on two or three consecutive evenings moderately, an overdose doing great injury. If canker appears, rub quicklime into the affected parts. Shade from bright sun, but only to prevent flagging.

Peaches and Nectarines in Early Houses.

When trees of the very early varieties, such as Alexander, Waterloo, and Early Louise Peaches, Advance and Cardinal Nectarines, have been cleared of the fruits, the shoots on which they were borne, if not required for the extension of the trees,

should be cut away to allow light and air free access to the foliage. Syringe forcibly, to cleanse the leaves of red spider, and if this and scale continue troublesome, promptly apply an insecticide to eradicate the pests. It is very important that the foliage be kept healthy, and to prevent premature ripening of the wood keep the atmosphere cool by ventilating the house to the fullest extent, after the fruit is gathered, excepting when the weather be unusually cold and the wood somewhat sappy. Keep the borders moist, and in showery weather remove the roof lights. Stop gross laterals, but avoid giving a check by a great reduction of foliage at one time.

Trees of Hale's Early, A Bec, Rivers' Early York, Early Alfred, Dr. Hogg, Dymond, Stirling Castle, Royal George, and Grosse Mignonne Peaches, Lord Napier, Goldoni, and Stanwick Elruge Nectarines, in the same house or a house to themselves, will be ripening the fruits and must not be syringed. Where water hangs on the fruits for any length of time after they commence ripening the skin is liable to crack, and the edges of the fissures are soon attacked by a mould, which imparts a musty flavour. The trees must not be allowed to suffer by want of water at the roots, but any excess of moisture at this stage has a tendency to cause splitting at the stone.

Succession Houses.

Hurrying the trees during the stoning process is sometimes fatal to the fruit, therefore allow time for this most exhausting essential. Allow a free circulation of air, ventilating early in the morning, and close soon in the afternoon with an abundance of atmospheric moisture, so as to raise the heat to 80deg or 85deg, and ventilate a little afterwards for the night, the temperature being allowed to fall to between 60deg and 65deg. This must only be practised after the stoning is completed, as a close atmosphere has a tendency to promote growth, and is not favourable to that process, therefore avoid undue excitement when the trees are in that condition. When the fruits have stoned remove all surplus fruits, and turn the others with their apexes to the light to insure colour and even ripening from the apex. Allow a rather free extension of the laterals as an encouragement of root action, but be careful not to crowd the principal foliage, and keep insects in check by syringing twice a day. Give thorough supplies of water through a surface mulching, not more than 2in thick, of lumpy material, and supply weakly trees with tepid liquid manure. Vigorous trees will not need more than a surface mulching, as high feeding will cause grossness, and must be studiously avoided.

Late Houses.

The shoots that are to carry next year's crop should be trained and tied in, allowing them to extend to a length of 15in or more if there be space, or stop them at about that size and pinch laterals to one leaf, being careful to avoid overcrowding. Young shoots required for extensions or furnishing the trees should be allowed to extend as far as space permits, and pinch all side shoots on last year's extensions that are not required for next year's fruiting or furnishing the trees, so as to form spurs and secure an equal distribution of the sap. In thinning the fruit leave a few more than will be required for the crop. Keep the leaves clean by syringing twice a day, and always sufficiently early to allow the foliage to become dry before night. Mulch the borders with a little short manure, or if the trees are young and vigorous, lighter and less rich material would be more suitable. Water thoroughly when necessary, always giving sufficient at a time to reach the drainage. Ventilate early, and increase the ventilation with the sun heat, closing soon in the afternoon if the fruit is required early. If the fruit is wanted late, however, keep the atmosphere as cool as possible by free ventilation day and night.

Recently Planted Young Trees.

These should be properly disbudded so as to leave the main branches or shoots for forming them 15in to 18in asunder, and the bearing wood at a similar distance on the last and previous year's wood, training the extensions their full length, and pinching the side shoots on last year's wood that are not required for bearing or extension to two or three leaves, so as to form spurs; but do not overcrowd the trees with foliage. These stubby side shoots often give good results whilst the trees are young, setting and stoning the fruit better than is the case on strong young wood. Pinch laterals at the first joint and successional growths as made. Avoid exciting too vigorous growth by the use of stimulants, using nitrogenous manure sparingly and an excessive supply of water at the roots, but employ phosphatic manure with a firm soil, so as to secure a free fibrous root formation and sturdy, short-jointed, thoroughly solidified growth.—ST. ALBANS.

Agricultural Teaching.

Institutes for the spread of scientific knowledge in agriculture among rural residents are now held in forty-three States and Territories. The expenditures on these amount to nearly 200,000dols a year.

The Question of Fruit Supply.

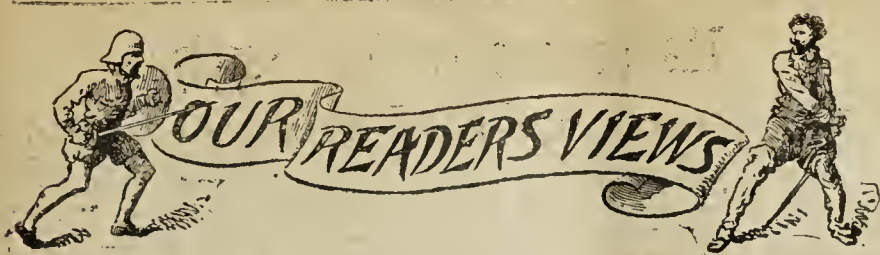
I do not know that I can add anything of importance to the contributions of your able correspondents who have recently favoured us with their views and experience on the important question of the fruit supply of this country. Scotland, owing to its less favourable climate and soil generally, is relatively of much less importance as a factor of meeting the growing demand for fruit in this country, and in making it less dependent on imported Apples and Pears especially. The extent to which the demand for, and consumption of fruit has increased in Scotland in the last half-century is so great that it may be said that no one could have foreseen it. In Edinburgh and Glasgow and all the larger towns the numbers of fruit shops fifty years since might almost be counted on the fingers, now they are to be met with in numbers in almost every street, and are patronised by every class of the population. The proportion in which this demand is being supplied from abroad as compared with the increase that has taken place in home-grown produce, in order to meet it, is very marked, inasmuch as no systematic extension of the cultivation of Apples and Pears has taken place, but to a very limited extent. There is no doubt that it is only in some exceptional districts where the soil and climate would warrant such an effort with any hope of its being a paying industry. Still, there are some localities where a much more reasonable hope of success might be expected, such as the Lothians, the "Carse" of Perthshire and Stirlingshire, the south-west of Scotland, and the lower reaches of the Clyde and Tweed, as well as some of the north-eastern counties that are within the influence of the Gulf Stream. In all of these some of the very finest Apples are produced. In these districts I am not aware that any systematic attempts, on anything but a very limited extent, to make the industry a profitable one. This must be regretted, for I do not think that better flavoured or crisper fruit are produced anywhere. Certainly they are far more palatable and juicy than any that come from America and our Colonies.

Unfortunately, landed proprietors offer no inducement to any who might otherwise be more ready to embark in fruit growing. In fact, a very serious obstacle is placed in the way of the market gardener and nurseryman in the exorbitant rents that are wrung from them. It is no uncommon thing to find a farmer paying 30s. or 40s. an acre, whilst his neighbours, engaged in the industries named are paying £6 and £8 for land that differs only in being separated by a hedge from his neighbour the farmer. At the same time the occupier of the dear land has to keep it in first rate heart and put far more skilled labour on it. This one condition is a serious block in the way of extended fruit culture in such districts in which fruit culture might be encouraged and made remunerative, especially if the proprietors were to take the trouble to encourage it. By a careful selection of a few good varieties, such as grow to a good size, and that, as a rule, can be depended on for a crop, there is no reason to doubt that on certain soils and tracts of land the supply of Scotch grown Apples might be greatly increased with benefit to all concerned.

Small fruits, such as Gooseberries, Strawberries, Raspberries, and Currants, are very largely grown in Scotland, and its climate is better suited to these than that of England. Especially does this apply to Gooseberries and Raspberries. All things considered, these hardy fruits yield far better returns in the north than do hothouse fruits in these times of high priced fuel and labour. It is not to be expected that Apple culture will ever be what it might be till landlords take an interest in the matter, and to this question, as a class they seem entirely apathetic. And their estates are left to be managed in far too many instances by lawyers and others, who know nothing of the practical or technical management of land, and scores of whom would be greatly puzzled to answer a few technical and practical questions that refer to the very foundations of successful land management.—DAVID THOMSON.

Japanese Dwarf Trees.

The undersigned write as follows:—"It would, doubtless, interest your readers to know if the demand for these quaint horticultural objects is still maintained. Yesterday, May 23, we had a sale by auction at our galleries in Conduit Street, of a small consignment of typical dwarf trees received direct from Japan, formed, as the catalogue stated, "by a native gentleman who is one of the leading horticultural experts in Japan. It comprises many notable specimens fully illustrating the laborious art of nananising. The trees were for absolute unreserved sale, and some of the highest prices realised were; for *Juniperus chinensis*, 130 years old, 26in high, £2; *Podocarpus macrophylla*, 40 years, 30in, £2; a weeping Juniper, 120 years, 21in high, 26in wide, £4 5s.; grafted *Thuya*, £3 7s. 6d.; *Pinus pentaphylla*, 90 years, 15in high, £3 15s.; *Azalea*, 90 years, 23in high, 4 guineas, and many others from 1 guinea to 3 guineas. It must be remembered that they were sold just as received, no time having been allowed for 'nursing' the plants into a more favourable condition.—KNIGHT FRANK RUTLEY."



Gardeners' Education.

In reply to your correspondent, page 468, re "Gardeners' Education," may I be allowed to say that I am not at all ashamed of my name; but I have divers reasons for withholding it. I do not see that the omission is any injustice whatever to your correspondent. Surely he attaches too much importance to a trifle. We are not discussing each other or our names. I shall be sorry if such a detail prevents Mr. Divers from advancing the cause of education. How best to do so is disturbing the minds of many eminent men at the present moment, and possibly he may add lustre to that distinguished body. Personally, I shall be content if, in my own sphere of life, my humble opinion will help to counteract the influence that gardeners of professional high standing undoubtedly have, who buoy the youth of gardening with the vain hope that if they dabble in half a dozen sciences they are on the high road to a first-class position. I have no patience whatever with the armchair critics, who are always showing us the way; and what is more exasperating than to be reproached for your non-success by those who are, as likely as not, indebted to Providence alone for their own? To say that knowledge of any kind will be of service is merely indulging in idle platitude. Everybody knows it. To succeed, the young man must concentrate his energy on the all-important points concerning his vocation. Efficiency must be his war cry, and he ought to be as skilled in the diplomatic art as the late Li Hung Chang, and trust to Providence. In his self-studies, however, he would do well to remember the following lines—

'Tis not to know of things remote, of things obscure and subtle; but to know
That which lies in thy daily path through life, is the prime wisdom.

I need say no more than to express the hope that your correspondent will overlook the triviality he mentioned, and give the *Journal of Horticulture* readers some sound, sensible, and solid advice.—DOMESTIC WORKING GARDENER.

I trust that the very interesting correspondence started by a "Domestic Working Gardener" may not degenerate into a

personal passage of arms between him and Mr. Divers, which seems not improbable, judging from the latter's note on page 468. I think, by the way, Mr. Divers is unreasonable in expecting a "Domestic Working Gardener" to sign his name to his next communication. When one is writing an article which consists for the most part of rapid moralisings and milk-and-water platitudes, and which, moreover, is of the "See-what-a-good-boy-am-I" order, one may safely do this; but I think even Mr. Divers himself would hesitate to append his name to a communication of the nature of that sent by a "Domestic Working Gardener." Mr. Divers may rest assured that our friend the Editor will not publish any communication from anonymous correspondents. It may be that a "Domestic Working Gardener" rather overstates his case; but, as you very justly say in your editorial note, much of what he says is true, and this, I feel sure, is the opinion of 90 per cent. of the gardeners of the United Kingdom. There is no fear of there being a scarcity of good men for good places; in fact, one has only to look at the advertisements in the gardening journals to see that the supply is more than equal to the demand. As a consequence, many a good gardener has, by sheer force of circumstances, to take a place below his capabilities. Gardeners, as a class, are very miserably paid (it frequently happens that the principal footman has a better salary), and yet there are those who persist in writing of the gardener's life as a positive El Dorado. What a pitiable state of affairs that so many gardeners who in their day have held good places should in their old age have to depend almost, if not entirely, upon charity for their daily bread. I hope we may have a very interesting discussion, and that writers will keep to the main subject, without indulging in personalities or drawing upon their personal experiences overmuch.—A NORTHERN GARDENER.

Coronation Tree Planting.

Space limitations forbid the publishing in extenso of our correspondent's seasonable letter. He refers to the article under the above title published on page 301, April 3, and differs from the writer of it, who desired Coronation tree-planters to set about the operation at once, instead of waiting till mid-June. He continues: "I cannot see where the danger lies in planting trees at that date. If I had tree planting to do I would select that date, and would be certain that they would live and grow. When such trees as Hollies, Yews, Cedars, Pines, and all evergreens are started into growth they can be safely planted. I remember Messrs. Dicksons, of Chester, stating in an article on the transplanting of *Araucaria imbricata*, that they delayed the trans-



Temple Show: Mr. Leopold de Rothschild's Pot Cherries (see page 492).

planting of them till after they had started into growth; they had lost hundreds by moving them in their dormant state. I planted an *Araucaria* on the last Jubilee, and it made a foot of growth after planting that year. When the trees' forces are in full flow, careful lifting, planting, and watering, with also overhead dewings at nightfall for a few days (if dry), will ensure their establishment. I give here my experience in planting large Hollies, Pines, and Cedars. In the month of June I once had to plant a "block" of the largest Hollies I could get from the nursery, plants 12ft in height, and had to bring them eight miles by road. When I approached the manager of the nurseries, and explained to him what I wanted, he shook his head, and said he would not guarantee them to live if I planted at that season. I had, however, wanted no guarantee. I had to make a screen to blot out a wall from view. Therefore I went to the foreman, who showed me the trees. They were well started into growth, and had to be thoroughly watered before being lifted as they were so dry at the roots. The foreman did not seem so afraid of their chance of living, for I told him I had previously lifted large Hollies and evergreen with great success. He did not doubt this, and said, "Look here," showing me a large brake of young Hollies lifted in the dormant state, more of them dead than alive, as cold winds had prevailed, and no root action had taken place. I also give the results that were attained at Culloden House, Invernesshire, when the old gardener, Mr. Barnet, planted two *Araucarias*, one at each side of a walk. In planting one of them he dug a large hole, 4ft to 5ft deep, and filled it nearly to the top with large stones, and then planted the tree, which was the finest specimen I had ever seen. The other was just planted the ordinary way, with no special preparation made for it, as Mr. Forbes, the owner, thought it was not necessary to do so, but the former was a giant compared with the latter. I have proved time after time that when the soil is rather heavy and free from stones these should be added to it, especially on the flat country, and the larger the stones the better, as the *Araucarias* like their roots to get hold of stones. It is natural for the Pine to grow on rocks and stony hill sides. Anyone preparing to plant Pines (or almost any tree) on lawns should prepare the holes now, and make them large enough to receive a cartload of stones and mark the result. In planting a tree or trees for such a memento the planter should make every effort to secure health and long life that the tree may be a noble specimen long after he is gone. A clump of trees might be planted in the parks in the shape of a crown, or on the lawns with ornamental shrubs. Twelve trees would plant the crown, which could be made in size according to the trees and shrubs to be planted.—ALEXANDER TRAILL, Fulshaw Hall, Cheshire."

Fruit Production.

"Observer's" latest plaint (page 454) is that I do not "see things" in the same light as himself. Well, I certainly can see nothing remarkable about that. Individuals who oppose each other, I believe, generally do differ about matters they discuss, as well as about the manner of discussing them. In all controversial writings I hold the opinion that, as far as possible, the remarks advanced should apply to the question at issue, instead of bringing in hosts of other points to serve as misleading illustrations. "Observer" has previously dragged into his discussion ideas concerning the supply of Plums, other soft fruits, butter, and eggs; now he is clutching at another straw in the shape of Potatoes, which he evidently thinks are a strong card to play. Really none of these things strengthens his case in the least. The matter is quite simple. Each year we consume millions of bushels of Apples more than we grow in this country. We have plenty of land capable of growing a large proportion of these millions, and it is an undoubted fact that Apples can be grown here and placed on the market at a fair profit. If we increase our supplies less foreign Apples will be wanted. Good English Apples command a better price than foreign ones, and if by planting extensively, and giving skilful attention, we grow larger supplies of good samples the effect will be that foreign Apples will have to be sold cheaper than now. Foreigners, in fact, will do the low class of trade, and the home growers the better class. At present it is to a great extent the other way about, as fine samples of English Apples are so limited that the foreign supplies often realize higher prices than a large proportion of those grown in this country. The shutting out of foreign supplies entirely is a matter which cannot be brought about for many years, and we shall probably always have to depend upon them at certain seasons. No matter how largely Apples are planted here, there is, in my opinion, no likelihood of such a glut as to make them unremunerative, so long as late varieties are planted and well grown. The thing to do is to plant! plant! plant! England needs more Apples, and the welfare of the country demands that the money spent in purchasing this wholesome food shall remain as far as possible in our own land.—H. D.

Societies.

Royal Horticultural, Inner Temple Gardens, May 28, 29, 30.

In concluding our report of the fiftieth great show of the Society, held in the Inner Temple Gardens, we are pleased to record that once again has success attended the event. Their Majesties the King and Queen Alexandra, together with other members of the Royal Family, privately visited the exhibition on the first of the three days, which event drew the attention of the whole newspaper reading public to the Society's show, to its great benefit. Unfortunately, on all three days there were showers, which somewhat lessened the enjoyment of quiet promenading or tea-drinking on the beautiful green lawns. The band of H.M. 1st Life Guards played on each afternoon.

Our use of the portrait illustration of Rev. W. Wilks, M.A., in our last issue was allowed through Mr. Wilks himself, and Mr. Wright's portrait block was secured from "Commerce" newspaper, by the courtesy of the proprietors.

Hardy Trees and Shrubs.

Messrs. W. H. Rogers and Son, Limited, Southampton, had a large collection of hybrid *Rhododendrons* in pots, containing a good variety, also a few *Acers* and *Conifers*.

Messrs. W. Fromow and Sons, Sutton Court Nursery, Chiswick, made a grand group of Japanese Maples. They were excellent in their development, and a great variety as shown here could not fail to be attractive.

A large space was occupied by Messrs. Fisher, Son, and Sibray, Limited, Handsworth, Sheffield, with a choice collection of hardy trees and shrubs. The *Acers* were of good colour and in great variety, while *Quercus concordia*, purple Birch, *Acacia variegata*, and some good *Azalea mollis* formed the chief features.

Messrs. Thos. Cripps and Son, Tunbridge Wells Nurseries, adopted a more modern style of grouping, which had a good effect. The *Acers* employed were large and displayed in bold masses. Groups of *Hydrangeas*, *Deutzia Lemoinei*, *Azalea mollis*, and *Rhododendrons* were noticeable, and a good group of the new golden *Retinospora obtusa* Crippsi. In another part of the grounds the same firm had a large exhibit of *Acers*, which were well arranged.

Messrs. J. Cheal and Sons, Crawley, also brought together a fine group of foliage and flowering plants, in which the Golden Elder, *Acers*, *Weigelas*, *Lilacs* in variety, *Rhododendrons*, and *Wistarias* constituted the chief features. The arrangement was well carried out.

Messrs. W. Cutbush and Son, Highgate, had a very large collection of clipped trees, cut into all sorts of shapes, chiefly of Box and Yews.

Messrs. Jas. Veitch and Sons, Limited, Chelsea, had a collection of specimen Bamboos in tubs, also a bed of *Primula japonica* in variety, which were attractive.

Messrs. Barr and Sons, Covent Garden, had a tent full of the Japanese dwarfed trees, which attracted so many visitors that it was difficult to get into the tent.

Mr. J. Hudson, gardener to Leopold de Rothschild, Esq., Gunnersbury House, Acton, made a large exhibit of trained scented *Pelargoniums* in variety; also some giant White *Marguerites*, and a couple of tubs filled with *Nymphaea stellata* Mrs. Ward, and W. Stone.

Messrs. Richard Smith and Co., Worcester, placed an extensive collection of *Conifers*, *Ivies*, and various other variegated shrubs.

Mr. S. Bide, Alma Nursery, Farnham, made a group of *Yucca aloifolia* variegata and *Dimorphanthus mandschuricus* foliis argentea marginata. Mr. S. Eida, 5, Conduit Street, staged an exhibit of miniature forest and dwarf trees.

Mr. J. Russell, Richmond, arranged a fine group of hardy *Acers*, *Clematis*, *Roses*, trained Bays, and a variety of variegated foliage plants and shrubs. Mr. A. Knowles, Woking, exhibited *Daphne cneorum* major, which were beautifully flowered.

Certificates and Awards of Merit.

The following were held over from our last week's report:—

Angracum Maloneyi (Sir T. Lawrence).—A mere tuft of inconspicuous flowers of a pale whitish colour. Botanical Certificate.

Aspasia lunata (Sir T. Lawrence).—Showy; the lip is white edged and purple blotched, with crimson spotted sepals and petals. Botanical Certificate.

Dendrobium camalatum (Sir T. Lawrence).—A pretty flowered species, coloured rosy mauve. Botanical Certificate.

Maxillaria prestans (Sir Trevor Lawrence).—A cinnamon coloured species. Botanical Certificate.

Oncidium luteum (Sir T. Lawrence).—A miniature species, with yellow inflorescence. Botanical Certificate.

Oncidium carthaginense (Sir T. Lawrence).—The purplish brown flowers are small, but numerous, on branching panicles. Botanical Certificate.

Pæony Queen Alexandra (Kelway & Son).—A beautiful and very large, pure white variety. Award of Merit.

Papaver orientale var. *A. W. Chillery* (W. J. Godfrey).—A large salmon-pink variety. Award of Merit.

Phalenopsis Sanderiana, Wigan's var. (Sir F. Wigan).—A large flowered and deep mauve coloured form. First Class Certificate.

Phyllocactus Emita (Veitch and Sons, Ltd.).—An exquisitely beautiful deep rosy earminc variety of good size. Award of Merit.

Polysachya pubescens (Sir T. Lawrence).—A tiny yellow flowered species. Botanical Certificate.

Polystachya zambesiaca (Sir T. Lawrence).—Inconspicuous greenish flowers. Botanical Certificate.

Primula imperialis (Veitch & Sons, Ltd.).—Deep yellow flowers in verticles. Award of Merit.

Thalictrum orientale (A. Perry).—A showy plant, with larger inflorescences (white) than are usually seen. Award of Merit.

Tricopila laxa (Sir Trevor Lawrence).—Flowers tea coloured, small and not showy; in long racemes. Botanical Certificate.

Tricopila rostrata (Sir T. Lawrence).—The large lip is white; other segments long and green. Award of Merit.

suffering from, and whether he should pull the plants up and burn them. He also said it was spreading rapidly, and he was afraid it might extend to other plants in the same house, as well as to his Cucumbers. Dr. Cooke reported upon them as follows: "I have examined carefully the Melon leaves sent me. They are certainly not affected with the new Melon disease, nor can I find any trace of mycelium in the tissues, or the least evidence of fungus attack. I am of opinion that the mishap is due to some external cause, like a sudden chill, and that there is nothing to be found which is capable of infecting other plants. In so far as the leaves sent to me are concerned, I find no evidence of internal disease, and cannot recommend the destruction of the plants, only their complete isolation may be prudent, so as to prevent communication with other Melon or Cucumber frames. Close attention may reveal the cause, but I cannot see why it should spread so rapidly. As a precaution I should pick off and burn diseased leaves; but, if it is really a disease of internal origin, although it does not at all resemble the bacteriosis of cucurbits, the microscope fails to detect any mycelium or spores in the tissues, which confirms me that it is not an organic disease. I



Temple Show: Lord Aldenham's Collection of Vegetables. (See page 492).

Tulip, Pride of Haarlem (Barr and Sons).—One of the largest Darwin varieties, coloured deep crimson ecrise. Award of Merit.

Zygopetalum rostratum (Sir T. Lawrence, Bart.).—A Cultural Commendation and F.C.C. was accorded for a pan of this with large flowers (white lip) and robust growth. First Class Certificate.

Royal Horticultural—Scientific Committee, May 20th.

Present: Dr. M. C. Cooke (in the chair); Messrs. Hooper, Worsdell, Saunders, Shea, Bowles, Douglas, Worsley, Gordon, Elwes, Chapman, and Holmes, Prof. Boulger, Rev. W. Wilks, and Rev. G. Henslow, hon. sec. Visitor, Prof. Percival, S.E. Ag. Col., Wye.

Becch and Rose diseased.—Mr. Saunders reported as follows upon the specimens sent to the last meeting: "As to the scale insects from Mr. Gregory. They are *Cryptococcus fagi*. The scale on the Rose is probably *Aspidiotus ostræformis*—I say probably, because there is another species so closely resembling it that without boiling the little insect from under the scale in liquor potassæ, staining, and otherwise preparing it for examination under the microscope, so that certain parts of its anatomy can be clearly seen, it is impossible to be quite certain. The *Aspidiotus* and *Cryptococcus*, though both belonging to the same family, the coccidæ, are very different insects, the former being a true scale insect; the other being nearly allied to the mealy bugs. I should recommend that all the shoots of the Rose that are attacked should be cut off and burnt, and the rest dressed or sprayed with paraffin emulsion. The Becch bark should be scrubbed with the same preparation, or with $\frac{1}{2}$ lb of softsoap dissolved in a gallon of water. It is better to boil the softsoap in a quart of water before adding it to rest of the water."

Melon leaves, decayed.—Mr. Purnell Purnell brought Melon leaves, and wished to know what the disease was they were

shall be interested to know if any discovery is made from external surroundings, but as these are unknown to me, I cannot offer any suggestions."

Potato tuber disease (*Fusarium solani*, Mart.).—Dr. Cooke also contributed the following: "A circumstance has occurred within the past few days which convinces me that we have a disease to contend with in stored Potatoes which has not hitherto been estimated at its true value. Not long since, some tubers were sent to the Committee, which, when cut, showed black blotches, and at the time I was inclined to think they might be caused by the ordinary Potato mildew running down the stems into the tubers, but the microscope failed to give satisfaction, and the inference remained in doubt. Since that time tubers have been sent, which, when cut, exhibited the same blackened blotches. In one instance this was supplemented by a great number of convex pinkish pustules on the outside of the tubers, mixed with tufts of white mould. These pustules were the external manifestations of a compact pink mould, which has long been known to develop itself upon Potato tubers, but the general impression has been that it was only a saprophyte, which flourished upon spots already decayed. Mr. Worthington Smith intimated in 1884 that *Fusisporium solani*, as it was then called, was 'not peculiar to decaying Potatoes,' but was a veritable disease of stored Potatoes, and of this there can be no longer any doubt. The black internal blotches at length become permeated by mycelium, which produce the characteristic conidia wherever they reach the external air. The pustules are about the size of a split hemp seed, and sometimes larger, with a tendency to form rings, or at least to grow in company, of a rather compact substance, of a pale pinkish colour, often mixed with tufts of white floccose mould. The conidia are profuse, of a spindle shape, curved, and narrowed towards each end, divided transversely by three septa into four cells (40–60 by 7–8 μ). When mature

they are apt to separate at the septa, and then the angular cells become rounded, and either germinate at once, or they may undergo a period of rest. It must be remembered that a very large number of conidia are produced on each pustule, and that each conidium germinates from each of the four cells, so that it possesses great powers of disseminating and reproducing the disease. Every such diseased tuber should be removed and destroyed at once, and if the disease appears amongst stored Potatoes, the application of some fungicide would be advisable so as to kill any scattered conidia. Probably some slight wound or bruise may be necessary for the mould to obtain entrance into sound Potatoes, but to be forewarned is to be forearmed." Prof. Percival observed that the disease was infectious amongst stored Potatoes, so that care should be taken to remove any that were affected.

Lily disease.—Dr. Cooke reported as follows upon some diseased bulbs: "Bulbs and young shoots were sent to the last Committee for report, of *Lilium candidum*. The two bulbs did not exhibit, either externally or internally, any trace of disease. The young shoot, about 6in long, at first appeared to be vigorous, but very soon all the young leaves began to turn brown and die at the tips, gradually passing downwards, until only the basal portion of the leaves remained green. No mycelium could be found within the tissues, and although the shoot has been kept in a moist atmosphere for a week, there has been no further development. I am inclined to suspect that, if any form of fungus disease is present, it is due to the parasite described by Marshall Ward ('Diseases of Plants,' page 117); but there is no direct evidence to be found in the specimens sent for examination, and it is possible that the failure may be due to external circumstances and surroundings."

Turnip varieties.—Mr. Gould, of Sleaford, wrote to say that there was no possibility of a mistake in the case of the "Red Tankard" Turnip described at the last meeting. He adds: "I am leaving all the plants to seed again, to see what the next generation will produce. We are also planting one Cabbage, one Carrot, and one Mangold, and will let you know the result in due course."

Raspberry canes and Pear leaves diseased.—Mr. Gant, of the Yorkshire College, Leeds, sent some examples from various places in Yorkshire. They were referred to Dr. Cooke and Mr. Saunders for examination and report.

Anthurium Scherzerianum.—Mr. Chapman showed two spikes, one having two spathes, from a plant which has borne thirty-six spikes, all of which were double-spathed. The other specimen was a seedling from this plant, but single-spathed, with a pale, rose-coloured stripe along the midrib.

Stipa viridula, injurious to cattle.—The seeds of a species of *Stipa*, probably *S. viridula*, Trin., were shown by Mr. E. M. Holmes, and were stated to have caused considerable losses amongst cattle on the Canadian ranches. This particular species appears to possess some poisonous principle, which has not yet received a careful chemical examination. An account of its properties is given in the "British Medical Journal," 1898, page 1,059. Haeckel states that *S. inebrians*, Hame., and *S. siberica*, Law., possess similar toxic properties. Other species, likewise fatal to cattle, owe their danger to the seeds. Those of *S. aristiglunus*, F. von Mueller, being said by Maiden to cause the death of numbers of cattle and sheep by becoming attached to the wool and working through the skin, causing intense fever, and often penetrating into the vitals. The chief danger of this kind arises in the autumn, when the grass is in fruit. Many of the species form excellent fodder for cattle at other times, such as *S. spartica* (Trin.), which constituted the winter food of the buffalo, and is now the delight of horses in the winter season. This species grows on the dry prairie; but *S. viridula* grows around badger-holes and in coulees throughout the Prairie region westwards to the Pacific. In New Mexico *S. viridula* is known as "Sleepy Grass."

Plants exhibited.—Mr. H. T. Elwes, Colesborne, Cheltenham, brought the following: (1) *Eremurus*. "The leaves of this plant are damaged, as I believe, by long-continued cold, wet, frost, and hail; but Mr. Hooze (Van Tubergen) thought it was a fungus which caused the decay, and advised the cutting off the leaves to prevent its spreading; but I cannot find after ten days that there is any confirmation of this." Dr. Cooke thought that Mr. Elwes' view was correct, and that if any fungus was present, it had followed on the previous decay, so that the plants should not be sacrificed. (2) *Eucharis grandiflora*. This is attacked by a snail, especially where they are above the soil. Mr. Chapman suggested plunging the whole pot in warm water for twenty-four hours, at intervals of ten days, as this, without injuring the plant, was effective against mites. (3) *Hymenocallis* sp. These proved to be nearly allied to *H. littoralis* and *H. caribaea*. (5) *Zizania aquatica*, seedlings. Mr. Elwes observed that though supposed to be an annual it had become a perennial. Mr. Bowles added that he had had it for four years, but it had never flowered with him.

Darwin Tulips.—Mr. Shea exhibited a plant bearing four blossoms on one stem. Prof. Percival observed that such had occurred in Kent, especially Darwins and old English sorts.

Also that many Tulips had seven or more perianth leaves, while the bracts were coloured. Lastly "singles" had become "doubles" this year. Mr. Elwes attributed these abnormal conditions to the perfect season of 1901 for ripening the bulbs.

Tulipa sylvestris.—Mr. Chapman sent the following communication: "I noticed from the report of the Royal Horticultural Society's Scientific Committee (April 22) Mr. Worsley showed the above Tulip. Having several of the species in flower in the borders here, I mentioned the matter to Mr. Cookson (of Oakwood, Wylam-on-Tyne), and have ascertained the following particulars from him, which I thought might perhaps be of interest. The plants we have here were collected and brought by Mr. Cookson from a gentleman friend's wood, about eleven miles north of Newcastle-on-Tyne. Although they must have been growing in this particular spot for ages, Mr. Cookson was the first to notice the Tulip characteristic about the apparent "weed." I use the word weed, for, from what Mr. Cookson tells me, they grow in hundreds of thousands, scarcely ever exceeding 3in in height, and never flowering where growing in the wild state. After gathering the plants, they were planted in the borders. It took three years before they produced flower. Its identity being then established. Since then, where the plants have not been moved, it is interesting to note that, in almost every instance, twin flower scapes are produced, as in enclosed specimen. It may also be of interest to note that it has a peculiar character of forming a long rhizome between each bulb, giving it such a roving nature in cultivated ground that although planted in a bed or patch, it will be found at a very different position from where it was planted the following year. I notice S.W. Yorks, being the farthest north given in the report, it might be interesting to know that it can be still found as a wild plant in Northumberland."

Dutch Horticultural and Botanical.

At a meeting of this society, on May 14, 1902, the Floral Committee awarded First Class Certificates to *Odontoglossum Hunnewellianum* var. *nigrum* (as rare plant), from Mr. W. C. Baron van Boetzelaer, at Maartensdijk; to *Odontoglossum cirrhosum*, from Mr. H. C. Hacke, Baarn. Awards of Merit to *Oncidium Marshallianum* and *Cattleya Mendeli*, from Mr. H. Hornsveld, Baarn; to *Primula elatior* *Zwijndrecht's Glorie* (as new plant), from Van Namen Brothers, Zwijndrecht. A Honorable Mentioning to *Odontoglossum Rossi aspersum*, from Mr. H. C. Hacke, Baarn; to *Odontoglossum crispum* (importation), from Mr. C. J. Vrikhert, Haarlem. A Silver-Gilt Medal to a very fine collection of *Odontoglossums* from Mr. J. H. van Vloten, Haarlem. A Silver Medal to a collection of Orchids from Mr. C. J. Vrikhert, Haarlem. Bronze Medals to the collections of Orchids grown in different materials from Mr. J. H. van Vloten, Haarlem; Mr. W. C. Baron van Boetzelaer, Maartensdijk; H. Hornsweld, Baarn; J. C. Ballego, and C. J. Vrikhert. The Commission could not make out which material would be the best; they were all a success.—P. W. Voet, Adj. Secretary.

Bristol Gardeners' Association.

In connection with this society the summer session was opened on Thursday evening, May 22, by Mr. F. Nash, Fellow of the Bath District Horticultural Association, who delivered an exhaustive lecture on the future culture of the Rose. Mr. Nash remarked that this "flower of flowers" has been in existence since the world. This queen of flowers has been vastly improved, and now stands second to none among our floral adornments of the garden. The decorative uses to which the Rose can be put are numerous, and simply to form beds such as we usually see does by no means constitute a Rose garden. There should be banks, hedges, bowers, beds, screens, pillars, and such like, covered with Roses. River banks also would form a picture in itself if judiciously planted, and where one had room to plant such places there is no doubt that Eve herself would be envious of the modern gardener if she could come upon the scene. The numerous varieties of the Rose, now amounting to some 2,000 sorts, are divided into thirty sections, and enables us to make such a selection that cannot fail to cause unmistakeable pleasure to all lovers of their garden. Mr. Nash advised his audience when ordering to leave the selection to the Rose grower, who, knowing them so well, would send only those most suitable for the aspect they were intended for. We find the Rose first appearing on the Great Seal of England during the reign of King Edward IV., in the fourteenth century, and now in the days of our present King Edward VII., we still find it the national emblem of our land. The lecturer gave a good selection of the best Roses to grow, as also many useful hints for their successful cultivation. An excellent discussion followed, and he was awarded the heartiest thanks of the meeting for his visit, to which he suitably replied. Prizes for six Tea or Noisette Roses went to—First Mrs. Talmadge (gardener, Mr. G. W. Harford), and second to Mr. J. Chetwood Aiken (gardener, Mr. J. Clarke). Certificates of Merit were awarded to Lady Cave (gardener, Mr. Poole), for an exhibit of cut foliage and flowers; Mr. Gilbert Howes (gardener, Mr. White), for *Aërides Fieldingi*; Mr. Shopland, for a dish of Mushrooms; and to Mr. Day for

Carnation blooms. The society's Certificates of Special Merit were recommended for Colonel Goss (gardener, Mr. Shaddick) for an exceedingly fine specimen of *Cypripedium barbatum*, carrying a hundred or more perfect blooms, which caused a great amount of admiration. Mr. A. Cole (gardener, Mr. Bird), also being recommended one for a very fine strain of *Calceolarias*, of which he exhibited three well grown plants. Both of these exhibits require special skill in their cultivation.—H. K.

Wargrave Gardeners.

At the last meeting of the members of the association Mr. J. Botley (gardener to the Rev. H. M. Wells, of Searletts Park, Twyford) read a very thoughtful paper on "Young Gardeners." He traced the career of a young fellow in his "teens" entering

Scottish Horticultural.

The usual monthly meeting of this association was held in No. 5, St. Andrew's Square, on the evening of Tuesday, the 3rd inst. Being "bedding out" season, the attendance was not quite so large as usual, but still numerous. After the usual preliminary business, Mr. Shrivell delivered a lecture on "Extensive Experiments on Kitchen Garden and Fruit Produce." Mr. Shrivell is a Kentish farmer, and cultivates on a large scale. In a most interesting, chatty manner, he gave particulars of many carefully conducted experiments with various vegetables and fruits, showing the effects of various chemical manures in conjunction with farmyard manure, and also by themselves; and,



Temple Show: Messrs. Webb & Sons' Herbaceous Calceolarias.

a fair-sized garden, and showed how he might rise step by step to the top of the gardening ladder and appear as a head gardener. He did not advocate too long a stay in one situation, but to gain experience the young gardener should move about, and at any rate spend several years in the kitchen garden. On attaining the dignity of a foreman he should set a good example to the men under him. On reaching the last round of the ladder as head gardener he would probably have to take charge of a smaller place; but here would be scope for his energies, and he would be able to prove his worth. Self-improvement, recreation, &c., were recommended, and concluded a most useful paper. A good discussion followed, in which several members related their experiences, some of which were very amusing. A vote of thanks was accorded Mr. Botley, and carried with acclamation. Among the exhibits was a splendid group of *Calceolarias*, staged by Mr. Priest; for which a Cultural Certificate was awarded.—H. COLEBY, Hon. Secretary.

while agreeing that farmyard manure was indispensable for most crops, the results were greatly enhanced by a judicious use of chemical manures. The audience listened with rapt attention, and the lecturer was frequently applauded. The discussion was taken part in by Messrs. Grieve, Murray, Carmichael, Smale, Mackintosh. On the motion of Mr. McHattie, a very warm vote of thanks was awarded to Mr. Shrivell. Among exhibits were a very beautiful collection of cut blooms of late blooming Tulips, including many of the Darwin varieties. Among the varieties were May Queen (a beautiful pink), Golden Crown Picotee, *Didieri lutescens*, *Bouton d'Or*, &c. A number of very handsome *Amaryllis* were shown by Mr. McDonald, Cardronna. These were awarded a Cultural Certificate. From M. Smale, Blackford Park, some beautiful seedling *Streptocarpus*. The exhibitors were awarded a vote of thanks. Arrangements were intimated as to the summer excursion, and intimation made regarding the Rose and Strawberry show to be held next month. A vote of thanks to the chairman brought the meeting to a close.

THE BEE-KEEPER.

Seasonable Hints.

According to the different stages of progression, every hive in the apiary requires some little attention now, upon which the success of a season is to a great extent dependent. When the thermometer is above 60deg a full and careful examination of each stock must be made, and a note taken of the amount of brood and food present and its exact condition. It invariably happens that with a young fertile queen stores at this time are short. In fact, with anything like a powerful colony, unless it has been fed, it will be at starvation point. Feeding should therefore be general, but only in sufficient quantities for present needs. Every effort should be made to obtain strong colonies, as one bee now is worth more than a dozen later. One vigorous stock will gather as much as three weak ones, the cost of feeding being repaid threefold. To neglect feeding while there is considerable brood in a hive would administer such a check to a stock that it would take nearly the whole of the season to recover from its effects. There is no rule in bee-keeping which can be applied without exception. One hive may with advantage be given more food, while another, with the same treatment, may be irreparably injured. All this goes to show how necessary it is that care be taken to ascertain, and at times anticipate, the demands of each hive, otherwise the bee-keeper will eventually suffer for his neglect by a decreased harvest.

Those who are fortunate enough to be in a district where there is an abundance of White Thorn, Sycamore, or fruit should (immediately the bees begin to fall heavily on the alighting board, and the top cells of the combs of brood are extended) super their best stocks with the object of harvesting a little surplus. There are districts where it is the rule, rather than the exception, to obtain 30lb per colony from this source alone. In other districts it is rather uncertain, and it is only in exceptionally fine springs that this is possible. The intervention of wet or cold spells would necessitate the removal of the super and a return to feeding. In any case the bees cannot be more profitably employed than in drawing out the combs in preparation for the coming harvest. With the aid of drawn-out combs 50 per cent. more honey can be obtained, and the working out at this season is done at comparatively little cost.

Before putting on the super each bar should be scraped clean with a glazier's knife or other suitable instrument, otherwise, when the excluder is placed in position the proper distance between the bottom bar and the excluder is not maintained, and brace combs are built. Not only is this a waste of energy, but it is impossible to take the super off when completed without irritating the bees by severing the combs and creating a disagreeably sticky mess, which again excites the bees. Moreover, by attending to these details the comb honey will be whiter, and manipulations will be facilitated. The combs should be lifted out separately and scraped—top, bottom, and sides if necessary—and replaced in exactly the same position as before. If the bees have to be cleared off the bars shake them inside the hive, not on and around the entrance board, or there is danger of losing the queen. Keep a sharp look-out for foul brood. It is easily detected in spring. All sealed cells (other than honey cells) which are not patches of fresh brood, should have a match inserted, and if a brown, ropy, tenacious mass is revealed it is bacillus alvei. These cells are generally found on combs where brood was hatched late the previous year, and the cells contain larvæ which did not reach maturity. If there are only a few scattered cells remove the combs on which found and burn them. Halve two naphthaline balls and place them at the back corners of the hive; at the same time feeding with medicated syrup must be commenced. The food must be medicated with naphthol beta solution, one tablespoonful to 10lb of sugar. All appliances, which have been used in connection with the colony—such as feeders and dummies—should be used solely for that stock, and due care taken to prevent communicating the disease. As the brood nest is extended on the remaining bars they should be keenly scrutinised at intervals for any recurrence of the disease.—E. E., Sandbach.

Young Gardeners' Domain.

Hints for Young Heads.

(Continued from page 194.)

Peach growing probably ranks next in importance to Vines, but the young hand who has to deal with it under the vigilant supervision of an expert head, will find no difficulty in grasping the simple details of successful culture during his probationary term. To some, however, the opportunity only may be afforded for observation of other men's work, and somehow this, like other opportunities which circumstances place a little aside of

the direct path of daily duty, may not appear to claim the minute attention it deserves. The larger the garden and its staff the more often is a young fellow's work confined to the groove in which it has pleased his master to place him, and the more expert and reliable he becomes in his one charge the less chance there is of his being changed. How necessary it is, then, for a lad thus circumstanced to observe and endeavour to grasp details of work extraneous to his own immediate sphere! Would that our boys could from the start be sufficiently impressed with the importance of trying to arm themselves at all points for the responsible position they aspire to. Let each brace himself to forge strength into the weak links of his chain of practice that when the strain of responsibility comes it may stand the test.

In passing through bothydom, now and again one becomes conscious that time is slipping away whilst facilities for practical instruction in some particular phase of gardening never seem to present themselves. Youthful buoyancy, however, soon floats a young fellow on a treacherously fair surface with a vague feeling that somehow, though the how is invisible, he will reach his port—that things will come right in the end. Life and its work are too short to admit false reasoning in its economy. "Such dear illusions will not last, the era of enchantment's past." Some head gardeners do recognise these deficiencies in a lad's education, and are sufficiently liberal-minded to find occasional hours, or half hours, when he—the youth—can be spared from his own particular work for a practical lesson in other departments, possibly outside, when pruning, seed sowing, or similar work is in progress. But again some head gardeners, troubled with many things, view this as a trouble they are not called upon to meet, whereas such little encouragements bestowed upon an intelligent boy cannot but redound to the master's credit and add a pleasure to his life.

Early Stages of Culture.

But to return to our Peaches. They, like ourselves, should have a good start in life, and in planting young trees into an already well-made border, in which old lime (mortar) rubble should play a conspicuous part, a barrowload of special compost in which one-third of rough leaf mould and a few handfuls of Clay's fertiliser, with a seasoning of sharp sand are blended, forms a medium for the roots to revel in. Prominent errors in Peach culture are overcrowding and the retention of strong growths in the early stage. With the former the remedy is obvious, and with the latter, to spare the knife is to spoil the Peach. He who has seen the ravages of red spider in Peach houses cannot fail to note the importance of a liberal water supply, and where this element and appliances are deficient, will, as a master, consider it a case of necessity to have water pressure at hand, and the hose pipe to apply it in copious syringings. During summer the hand syringe is too laborious, and too time-absorbing to justify any excuse on the score of primary outlay.

Not only should young men endeavour to absorb the science and practice of gardening in its broadly comprehensive sense, but try to make themselves acquainted with all the best forms of appliances and their modes of use, which not only directly economise time and minimise expense, but are conducive to the smooth running of the complex machinery of an important charge of which, sooner or later, they hope to be chief engineer. A little digression on this matter will probably be of more service to a young head than further discussion upon gardening under glass, of which these brief papers can do but little more than bring before him the broader ethics, and duly emphasise the importance of a practical acquaintance with daily routine. Every opportunity that occurs during building, boiler setting, and every item, in fact, with all the technical details in connection therewith, should be seized upon to know

The Why and Wherefore.

pertaining to it all. There is a reason for everything, and either good or bad results are effects of causes an ingenious mind will endeavour to trace for future guidance. Local builders, carpenters, painters, fitters, or what not may be very good men in their way, but their ways and our wants too often clash. "Not a gardener's business," some will say. True, but so intimately connected with it that it seems neither possible nor expedient to dismiss such things from our curriculum; and where a gardener is unable to convey his ideas correctly and concisely to the tradesman, and superintend their being properly carried out, then, for want of a proper understanding, misunderstandings arise, to the eventual detriment of the gardener and his work. Youthful ambition trends towards the glass department, and often tends to monopolise interest in it, perhaps because the work is regarded as being more mental than muscular; but beyond the essential labours connected with the kitchen garden and outside work generally, there is the higher life of outside gardening, where freedom reigns in a kingdom of infinite interest and beauty, and where man's place is more that of minister than master. To introduce probationers to that gardener's elysium in our next paper will afford much pleasure to—AN OLD BOY.

(To be continued.)



Fruit Forcing.

CUCUMBERS.—Cold and sharp winds with gleams of bright sun has rendered careful attention to ventilation imperative. In such weather it is a good plan to turn the heat off when the temperature is 75deg on sunny mornings and keep it off all the day, only using it to maintain a temperature of 65deg to 70deg at night and 70deg to 75deg on dull days. This will lessen the necessity for air-giving and shading, which must be had recourse to when necessary to prevent flagging and scorching. Permanent shading is only desirable where no ventilation is given; then the greatest danger is about 4 to 5 p.m. with span-roofed houses facing the east and west, and whitewash is generally employed on the latter side of the house. Go over the plants frequently for stopping the growth, cutting out old ones and thinning where likely to become crowded. Liquid manure will be required two or three times a week, but top-dressing of artificial fertiliser may be used between times with advantage. Maintain a good moisture by sprinkling the floor and other surfaces when they become dry. Where straight fruits are required glasses should be used. In pits and frames night coverings over the lights will still be necessary, and attention must be given to the linings of the beds, as a good bottom heat is one of the best means of securing healthy root action and vigorous growths. Keep the growths fairly thin, and close sufficiently early to run up to 90deg or 100deg, sprinkling the plants lightly at closing time. Supply water at the roots as required, and always in a tepid state.

CHERRIES.—The crop being now ripe, consideration must be given to keep them fresh, so as to prolong the season. Shading will effect that, but it is undesirable where the fruit is not exposed directly to the sun, otherwise it will be necessary to have recourse to it. Only light material, as hexagon netting, should be used. Free ventilation must be attended to, and in warm weather a sprinkling of the surface of the border in the hottest part of the day will assist keeping the fruit plump. The roots must not be neglected for water, as dryness is inimical to the foliage, and on the preservation of health depends the proper formation of the buds for the ensuing crop of fruit.

VINES: EARLY HOUSES.—Where ripe Grapes are hanging afford sufficient water to the inside borders to maintain the soil in a moist condition. No injury will result to the Grapes provided the atmosphere is not stagnant; but the air must be kept more or less in motion by ventilating constantly, and, in accordance with external conditions, maintaining a temperature of 60deg. When the Vines are cleared of ripe fruit the foliage should be cleansed of dust and red spider, employing tepid water, and, if necessary, an insecticide, as keeping the foliage clear and healthy to the last is important for aiding the formation of buds for another season. The leaves being fresh and clean, keep the laterals in check by pinching, yet if there be anything defective with the principal foliage a little freedom may be allowed to the laterals.

HOUSES WITH THE FRUIT SWELLING.—Although fires cannot be dispensed with at night and on cold dull days, much may be done in economising fuel by closing early on fine afternoons, but it must be accompanied by plenty of atmospheric moisture, avoiding a constantly saturated atmosphere by a little ventilation at night and increasing it early in the morning. Nevertheless, a moist atmosphere is essential to the swelling of the fruit, and it should be secured without stagnation by damping the floors and borders two or three times a day—in the morning, at closing time, and before nightfall. Do not allow the laterals to grow so as to crowd the principal leaves, but keep them well in hand. Where, however, there is plenty of space, they may be allowed to extend, yet not so as to necessitate their removal to a great amount later on. The temperature should be maintained at 65deg at night or a few degrees less on cold nights, 70deg to 75deg by day, and 80deg to 85deg from sun heat, allowing an advance to 90deg after closing or early in the afternoon.

HOUSE WITH THE GRAPES RIPENING.—Allow a constant and liberal supply of warm, rather dry, air; but a genial condition of the atmosphere is necessary for the benefit of the foliage, yet the air moisture must not be excessive or stagnant, or it will prejudice the ripening. Do not neglect to supply water to the roots, and if nourishment is required it should be given of a sweet nature, or the Grapes may be tainted, as they are with late applications of soot and other organic matter. If a

light mulching of short, sweet manure be applied it will tend to a more equable moisture at the roots. A good heat is necessary to ensure the highest quality; indeed, there is no comparison between Grapes that are properly ripened in a rather warm and well-ventilated atmosphere and those finished in a low and moist temperature.

GRAPES SCALDING.—Muscats and other varieties completing the stoning should be carefully watched in hot, bright weather, and in case of scalding—or, rather, to prevent it—air must be admitted more freely or until the colouring commences. At that period all danger will be passed as regards the black varieties; but Muscat of Alexandria will scald when well developed and advanced in colour, and it is necessary in houses with large panes of glass to employ a slight shading, as that of herring netting, over the roof lights in very bright periods. It is essential, however, that these Grapes be well exposed to light. With Hamburgs and black Grapes generally it is different; they colour best beneath a good spread of foliage, and it is one of the best means of avoiding scalding, providing that the supply of air is bountiful by day and a little ventilation left on constantly at the upper part of the house with a genial warmth in the hot-water pipes. A temperature of 65deg to 70deg by artificial means suffices, or a little less for Hamburgs.

LATE GRAPES.—Where the Vines are in flower a constant supply of dry, warm air will further a good set of fruit, the temperature being kept at 70deg to 75deg by artificial heat and rising to 80deg or 90deg with sun. Thin the berries freely immediately they are set; but this in the case of shy setters must be confined to the removal of the smallest and imperfect berries in the first instance, deferring the general thinning until the properly fertilised ones can be determined by their free swelling. There must not be any deficiency of moisture at the roots, therefore afford liquid manure copiously after the Grapes are thinned and swelling, or a top-dressing may be given of some approved fertiliser, distributing it evenly over the surface and wash in moderately. If the weather is dry and the soil light, outside borders will need watering, affording liquid manure or top-dressings of artificial manures if the Vines are not very strong or are carrying a full crop.

YOUNG VINES.—Those in pots for next year's fruiting should have the leading shoot or cane stopped at 8ft to 9ft, and the laterals or sub-laterals pinched at one leaf as produced. Supernumeraries or recently planted should also have the canes stopped at the length named, the laterals and sub-laterals being closely pinched. This will concentrate the energies of the Vines on the principal leaves and buds, and is necessary for those intended to fruit next season. The permanent Vines, however, may be allowed to make all the growth there is room for, but it is a mistake to encourage growth by over-stimulation and an excessively humid atmosphere, but growth should be accelerated by closing the house early in the morning on fine days. When young Vines become established they will require abundance of water at the roots; yet avoid making the soil sodden by needless applications, and sprinkle surfaces two or three times a day, so as to maintain a genial condition of the atmosphere.—**ST. ALBANS.**

The Kitchen Garden.

BRUSSELS SPROUTS.—The sooner a good breadth of these are planted, the more headway the plants will make, becoming vigorously rooted, sturdy in stem, and much more capable of affording compact sprouts than later planted specimens. Of course, the best plants are those which have been treated to a liberal amount of room in nursery beds since attaining the rough leaf stage. Brussels Sprouts are a valuable crop, therefore good ground in an open position must be given them, the rows having a distance of at least 2ft 6in and 18in between the plants. The plants will lift with plenty of soil attached to the roots, and may be planted with a trowel, or a trench may be formed with the spade, the plants being placed in it at the proper distance apart, partly surrounded with soil, made firm and watered in. Liquid manure may be used. Then fill in with dry soil, and little, if any moisture will be required for some time, especially if a fine mulch is kept on the surface by hoeing.

BROCCOLI.—The plants becoming crowded in the seed beds should be thinned out. A number must be pricked out on a border to strengthen for the subsequent final planting, which must be done later on in the firmest possible ground. Utilise plants with good centres.

CAULIFLOWERS.—The early plants transferred to rich soil in the open ground some time ago will be largely benefited by hoeings and waterings of liquid manure. Cut the heads when they arrive at the best condition, and immediately pull up the stumps. Walerheren and Autumn Giant may be planted, the latter more freely than the former, because of its high quality, large size, and usefulness during the early autumn. Rich ground will afford the best results, placing the plants in rows 2ft apart.

SAVOYS.—It is too early yet to finally plant out Savoy, but the seedlings in the beds must be thinned, and some pricked out to strengthen.

KALE OR BORECOLE.—Scotch, Asparagus, Cottagers, Hardy Sprouting varieties must be grown sturdily by pricking them out in beds about 4in apart, and thinning out the seedlings to avoid their being drawn by crowding.

TURNIPS.—Sow a moderate breadth of Turnips in shallow drills on good ground. Earlier sowings should be thinned freely, and the soil well hoed. Dustings of soot during the youngest stage will not only deter attacks of fly, but promote growth. As an incentive to quick growth, applications of artificial fertilisers will promote vigour.

CELERY.—Additional trenches must be prepared for the principal crop of Celery, placing out sturdy, well-rooted plants with good balls of soil as the opportunity occurs. The soil must be in a moist state when the planting is done, so should very dry weather occur, the trenches must be well moistened a day or two previously. If possible, plant in showery weather, as then the foliage will not wilt so much.

FRENCH BEANS.—Another sowing should be made in a favourable position, as this sowing will undoubtedly come into bearing at an opportune time when probably the earlier rows are becoming useless from prolonged bearing. Previous to sowing soak the drills with liquid manure.

SCARLET RUNNERS.—It is not too late to make a sowing of Scarlet Runners, for the later a crop of Beans can be secured the better. This sowing will, under favourable circumstances of growth, take the place of the main crop, which from a prolonged period of bearing fails to last out to the end of the season. If several rows are sown, do not crowd them too closely together. Afford ample space of 8ft to 12ft, and crop the intermediate space with Celery, Cauliflower, Leeks, or Lettuce.

LETTUCE.—Immediately plants run to seed, remove them from the ground. Sow more seed for succession, and thin or plant out advancing seedlings in moistened drills during the prevalence of very dry weather.—**EAST KENT.**

Nature Notes.

Heavy snowstorms and a severe frost, which has killed all their silkworms, have ruined hundreds of peasants in Pieve di Cadore, in North-Eastern Italy.

Paragraphs in the newspapers announce the appearance of Mushrooms in fields and meadows throughout various counties. We ourselves gathered some very fine samples on Sunday near Standford, in Berkshire. The May fly was seen in quantity on Saturday, May 31, on the Kennet; and the orange-tipped butterfly appeared on June 1. The nightingale was seen and heard on the same date, but it ceases to sing from about this time.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick, height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1902. May.										
Sunday ...25	N.W.	deg. 60.4	deg. 53.5	deg. 67.0	deg. 50.0	Ins. —	deg. 55.0	deg. 51.3	deg. 49.3	deg. 41.0
Monday ...26	N.W.	57.8	49.8	69.0	44.8	—	56.5	52.6	49.4	37.2
Tuesday ...27	W.S.W.	63.2	56.4	70.0	48.3	—	57.9	53.5	49.8	41.3
Wed'sday 28	S.W.	57.6	49.8	66.4	48.0	0.05	58.9	54.5	50.2	39.6
Thursday 29	W.S.W.	55.7	48.9	63.7	49.5	0.22	58.7	55.0	50.5	47.2
Friday ...30	E.N.E.	50.4	50.0	63.7	48.0	0.09	58.2	55.3	51.0	46.8
Saturday 31	S.E.	61.2	57.5	69.2	50.5	0.05	57.7	55.1	51.3	49.0
MEANS ...		58.0	52.3	67.0	48.4	Total. 0.41	57.6	53.9	50.2	43.2

The first part of the week was bright and dry, the latter part dull and warm, with frequent showers.

Trade Catalogue Received.

Benjamin R. Cant and Sons, The Old Rose Gardens, Colchester.—*Descriptive Price List of New Roses for Spring, 1902.*



* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

FOUR FLOWERED TULIP (H. Silcox).—Thanks for photograph received, which we shall use.

F.R.H.S. (M.).—Inquire of the Secretary, R.H.S., 117, Victoria Street, London, S.W.

WEED KILLER (— Gunn).—Your name is undecipherable. The Acme Weed Killer is certainly poisonous.

BROWN BLOTCHES ON VINE LEAVES (J. W. S.).—The blotches on the Alicante leaves are caused by damp, or, rather, the sun acting powerfully upon them whilst wet; either the leaves being too near the glass or ventilation not given early enough to dispel the moisture by the time the sun acted powerfully on the house and raised the temperature considerably. The leaves in other respects are quite clean and healthy, such spots on leaves often being caused by drip from a leaky roof. The damp arising from pots would not cause the mischief, for it is the moisture on the foliage, and there remaining for some time, that has given rise to the injury. Leaves touching the glass are almost certain to be scorched, as there is usually moisture on the glass or between it and the portion of leaf in contact.

PEACH FRUITS CRACKED (Dundee).—The fruits are badly affected with mildew, which forms a dense white coat over the parts affected, living on the outer surface of the cells of the fruit, destroying or hardening the skin. This prevents the proper swelling of the fruit, hence the mildewed parts frequently crack, as in the specimens. Flowers of sulphur, mixed with about one-third of slaked lime dusted on the affected fruit while the mildew is in the early stage arrests its progress, as it will also do later, but when the disease has made considerable advance, as in your case, the fruit will not afterwards be of any use, being spoiled by irregular swelling and cracking. Spraying with potassium sulphide, 1oz to 3gal of water, will also check the disease, and is not so unsightly on the foliage as the powder dressing.

ERADICATING THISTLES FROM A PASTURE (Idem).—The cheapest and most expeditious method, all points considered, is pulling up every shoot as soon as it appears, those pulling this weed requiring to be furnished with strong gloves or Thistle pincers. It takes seven or eight years to free the land from the weed, though this is hardly possible, as Thistles are so common by roadsides, and seed so abundantly, that it is hardly possible to completely effect the extermination of the weed in either pasture or arable land. Cutting off the plant with a spade is not so good as pulling, though the spade or implement that liberates a portion of salt on the root has a good effect, but the prickly tops remain to the annoyance of cattle grazing. In most cases it is usual to leave the Thistles until showing or "knopping" for flower, and then cut them down close with a scythe. This has a deterrent effect, and some consider it all that is necessary, or at least that pays for the trouble. The cut Thistles should be cleared off the land. When cutting with scythe is resorted to, it should not be practised later than the early part of August, or, rather, be done by that time.

PLANTING YOUNG VINES (R. A. C.).—The procedure you propose adopting appears likely to succeed, only you may have too many "irons in the fire," or be too grasping and spoil the whole thing. The Vines in pots being strong enough, and properly matured in wood and buds, will, no doubt, give good returns in 1903. The Vines raised this year, and now in 7-inch pots, would be best planted in October, or preferably in September, the wood being sufficiently matured, this being better than planting in January, as the house is started at the beginning of February. As the Vines will be at rest by November, or latest December; why not prune to two buds, then, instead of leaving for disbudding, to the two lowest buds? There is no danger of bleeding, only dress the cuts with patent knotting or best French polish. The permanent Vines will not be ready for planting until next May or June; they being raised in turves, and being in good form will, no doubt, make excellent canes, strong enough for cutting back to the bottom of the rafter or trellis. In other respects we see nothing to hinder your proposed plans answering, only that, as before stated, of attempting too much in the space.

HORTICULTURAL DIRECTORY (F. P. Matthews).—We have handed your communication to the Editor of the Horticultural Directory.

WHAT KIND OF ROSE IS THE TRUE YORK AND LANCASTER? (S. S.).—It is a variety of the Damask Rose (*Rosa damascena*), is semi-double, and is coloured red and white, striped fashion.

BOOKS WANTED (A. H. B., Kimberley, S.A.).—Cousins' "Chemistry of the Garden," 1s., Macmillan and Co., Limited; also "Elementary Agricultural Chemistry," 2s. 6d. to 3s. 6d., Longmans and Co., which will supply you with the information you require, and guide you.

CHERRY TREES GUMMED (J. P., Bristol).—Gumming is caused either by the roots penetrating into unsuitable soil, or by an injury to the bark. If it does not arise from injury, you must lift the roots out of the subsoil and replant them in turfy loam, if it is to be had. The top spit of some old pasture is the best.

SCHIZANTHUS WISETONENSIS (H. R., Kent).—Schizanthus wisetonensis resulted from a careful selection extending over a number of years, from a sport of *S. pinnatus*. The raisers, Messrs. Hugh Low and Co., have this season the first plant of a white form, but in obtaining it the plant has lost to some extent the dwarf, Fern-like habit of the type. The flower, however, is considerably larger in size.

INSECT IN RASPBERRY CANES (J. Coles).—The red grubs are the larvæ of a very small moth called the Raspberry-bud moth. The egg is laid by a moth in a bud, and the grub from the egg eats its way into the cane. Entomologists now call the moth *Lampronia rubiella*, Linnaeus called it *Tinea corticella*. We know of no mode of prevention except cutting off and burning all the parts of the cane which give evidence of having grubs within them.

CROSS FERTILISING CARNATIONS (D. A.).—We may be able to explain this better at a later date by means of illustrations. The stigmas, or female organs, appear when the flowers are pretty well expanded. They are long, pale purple or white, and finely serrated at the outer edge, and appear towards the centre of the flower. The anthers containing the pollen is ripe earlier than the stigma, and require to be removed to prevent self-fertilisation. In crossing, it is therefore necessary to take the pollen from one flower and apply it to the stigma of another flower, and to cover up the fertilised flower with a small muslin bag. The air should be dry at the time, and the plants should be "hard" grown, though not starved.

BLIGHT OF JARGONELLE PEAR TREE (R. C. B.).—The small reddish spots upon the upper surface of the leaves and on the young wood are caused by the Pear-leaf mite, *Phytoptus pyri*. The disease appears on the Pear leaves before they are fully expanded from the bud in the spring, in the form of red blister-like spots $\frac{1}{4}$ in or more in diameter. During this red stage of the disease the spots are more conspicuous on the upper surface of the leaves. About June 1 the spots gradually change to a green colour, hardly distinguishable from the unaffected portions of the leaf. This change takes place on the lower side of the leaves first, and the spots may thus be red above and green below. This green stage lasts about a week or ten days, and about the middle of June the leaves begin to change to a dark brown colour. The tissue of the diseased parts or spots then presents a dead, dry, brown or black corky appearance. The spots occur either singly, scattered over the surface of the leaves, or often coalesce, forming large blotches, which sometimes involve a large portion of the leaf, and infected leaves remain unchanged until they fall in the autumn. The exceedingly minute eggs, oval and greyish, of the female mites, are laid in the spring within the galls that they have formed, and here the young are hatched. The young mites in due course escape through the opening in the gall, and seeking the healthy part of a leaf, or more often crawling to the tender leaves of the new growth, they work their way into the tissue, and new galls are thus started. In this manner the galls on a tree are often rapidly multiplied during the summer. The mites live within the galls, feeding upon the plant cells, until the drying of the leaves in the autumn. They then leave the galls through the openings, and migrate to the winter buds, and here they remain during the winter beneath the outer scales of the buds. In the matter of remedy the mite is difficult to fight, for so long as it remains in the tissues of the leaves it is beyond the reach of insecticides to a great extent. The removal of the young growths by the summer pruning will check the pest to a considerable extent, and spraying or syringing with petroleum soft-soap, 2oz to a gallon of water, directing the solution upwards so as to thoroughly wet the under side of the leaves, and repeating occasionally, has a good effect. It has been demonstrated that the pest may be successfully kept in check by a single spraying in winter with paraffin oil emulsion diluted with seven parts of water. The tree or trees should be thoroughly treated and whilst quite dormant.

NAMES OF PLANTS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (B. L., Somerset, West).—1, *Ornithogalum umbellatum*; 2, *Muscari comosum*; 3, *Anthyllis montana*; 4, *Phlox subulata*;

5, *Helianthemum vulgare mutabile roseum*; 6, *Centranthus albus*; 7, *Erigeron philadelphicus*. (C. S., Kelso).—We find your numbers to run from 7 to 10; was this intended? 7, *Pulmonaria officinalis*, also called *P. saccharata*; 8, *Saxifraga Wallacei*; 9, *Claytonia siberica*; 10, *Saxifraga cespitosa*. (L. E.).—1, unrecognised; 2, *Pellea cordata flexuosa*; 3, *Phyllocactus* variety. (J. H. Ward).—The flowering spray was greatly withered; it was very probably *Halesia tetraptera*, the Snowdrop Tree. (J. W.).—*Ribes sanguineum*. (A. W.).—1, *Typha angustifolia*; 2, *Typha latifolia*; 3, *Scirpus lacustris*, the Bullrush; 4, *Saxifraga cespitosa*; 5, *Phyllostachys henonis*. (A. Matthews).—*Polygonum arvensis*. (B. K. L.).—Varieties of Pansies we cannot undertake to name. (Henry R.).—1, *Ranunculus aquatilis*; 2, *Galium Aparinum*; 3, *Cicum montanum*; 4, *Stellaria Holostea*; 5, *Berberis Darwini*; 6, *Berberis stenophylla*.

Covent Garden Market.— June 4th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, Tasmanian ...	11	0 to 15	0	Grapes, Hamburgh, lb.	3 0 to 4 0
Apricots, boxes ...	1	0	1 3	„ Muscat ...	5 0 6 0
Bananas ...	8	0	12 0	Oranges, case ...	10 0 25 0
Cherries, boxes ...	1	3	1 6	Pines, St. Michael's,	
Lemons, Messina, case	10	0	12 0	each ...	2 6 5 0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	2	0 to 3	0	Lettuce, Cos, doz.	1 6 to 2 0
„ Jerusalem, sieve	1	6	0 0	Mint, doz. bun.	4 0 6 0
Asparagus, English, 100	1	3	1 6	Mushrooms, forced, lb.	0 8 0 9
Batavia, doz. ...	2	0	0 0	Mustard & Cress, pnnt.	0 2 0 0
Beans, French, lb.	1	0	1 3	Parsley, doz. bnchs.	3 0 4 0
Beet, red, doz.	0	6	0 0	Potatoes, English, cwt.	3 0 4 0
Cabbages, tally ...	3	0	5 0	„ Jersey, new, cwt.	10 0 0 0
Carrots, new, bun.	0	8	1 0	Radishes, doz.	0 9 1 0
Cauliflowers, doz.	2	0	3 0	Seakale ...	1 0 1 3
Corn Salad, strike	1	0	1 3	Spinach, bush.	3 0 4 0
Cucumbers doz.	1	6	2 6	Tomatoes, Canary	
Endive, doz. ...	1	6	0 0	consignment...	4 0 4 6
Herbs, bunch	0	2	0 0	„ English, lb.	0 6 0 8
Horseradish, bunch	1	6	0 0	Turnips, bnch.	0 6 0 8
Leeks, bunch	0	1½	0 2	Watercress, doz.	0 6 0 0
Lettuce, Cabbage, doz.	0	6	1 0		

Average Wholesale Prices.—Plants in Pots.

Most of the undermentioned plants are sold in 48 and 32-sized pots

	s. d.	s. d.		s. d.	s. d.
Aralias, doz. ...	5	0 to 12	0	Geraniums, dble., doz.	4 0 to 6 0
Araucaria, doz.	12	0	30 0	Grevilleas, 48's, doz.	5 0 8 0
Aspidistra, doz.	18	0	36 0	Heliotropes ...	6 0 8 0
Crotons, doz.	18	0	30 0	Hydrangea Thos. Hogg	10 0 12 0
Cyperus alternifolius				„ pink ...	10 0 12 0
doz. ...	4	0	5 0	Lycopodiums, doz.	3 0 0 0
Dracæna, var., doz.	12	0	30 0	Marguerite Daisy, doz.	8 0 10 0
„ viridis, doz.	9	0	18 0	Mignonette ...	6 0 8 0
Erica Cavendishii	21	0	48 0	Myrtles, doz.	6 0 9 6
„ Persoluta ...	18	0	21 0	Palms, in var., doz.	15 0 30 0
„ ventricosa nana	18	0	21 0	„ specimens	21 0 63 0
„ coccinea	18	0	21 0	Pandanus Veitchi, 48's,	
Ferns, var., doz.	4	0	18 0	doz. ...	24 0 30 0
„ small, 100...	10	0	16 0	Pelargoniums, doz.	8 0 10 0
Ficus elastica, doz.	9	0	12 0	Shrubs, in pots	4 0 6 0
Foliage plants, var., each	1	0	5 0	Spiræa japonica, 48's,	
Fuchsias ...	6	0	8 0	doz. ...	6 0 8 0

Average Wholesale Prices.—Cut Flowers

	s. d.	s. d.		s. d.	s. d.
Arums, doz.	4	0 to 5	0	Maidenhair Fern, doz.	
Asparagus, Fern, bnch.	1	0	2 0	bnchs.	4 0 to 5 0
Bouvardia, coloured,				Marguerites, white,	
doz. bunches	6	0	8 0	doz. bnchs.	4 0 0 0
Carnations, 12 blooms	1	0	1 3	„ yellow, doz. bnchs.	2 0 0 0
Cattleyas, doz.	8	0	12 0	Myrtle, English, per	
Cornflower, doz. bun.	1	0	1 6	bunch	0 6 0 0
Croton foliage, bun.	0	9	1 0	Narcissus Poeticus, doz.	1 6 0 0
Cycas leaves, each	0	9	1 6	„ double white,	
Cypripediums, doz.	2	0	3 0	doz. bunches	1 6 2 0
Eucharis, doz.	0	0	3 0	Odontoglossums ...	4 0 0 0
Gardenias, doz.	2	0	2 6	Orange blossom, bunch	2 0 3 0
Geranium, scarlet, doz.				Roses, Niphetos, white,	
bnchs.	4	0	6 0	doz. ...	1 0 2 0
Gladiolus, white, doz.				„ pink, doz.	2 0 4 0
bunches	8	0	12 0	„ yellow, doz. (Perles)	1 0 2 0
Gypsophila, doz. bun.	6	0	8 0	„ Maréchal Niels	2 0 4 0
Iris, Spanish, doz. bun.	6	0	9 0	„ Generals...	2 0 4 0
Ivy leaves, doz. bun.	1	6	0 0	Smilax, bunch	4 0 6 0
Lilac, French, white,				Stephanotis, doz. pips	2 0 4 0
bunch	3	6	0 0	Stock, double, white,	
Lilium Harrisi	2	0	3 0	doz. bun.	2 0 2 6
„ lancifolium alb.	2	0	2 6	Sweet Peas, white and	
„ l. rubrum...	2	0	2 6	coloured, dozen bun.	6 0 8 0
„ longiflorum	3	0	4 0	Tuberose, dozen...	0 3 0 4
Lily of Valley, 12 bnchs	12	0	18 0	Wallflowers, doz. bun	2 0 3 0



Cattle Breeding and Rearing.

The rise in the price of beef has had its natural effect on the value of store cattle, which are now very difficult to obtain at any price. There is a speculative spirit abroad. Those who have few cattle are anxious to buy, whilst those who have many are loth to sell at a price which leaves any prospect of profit to the buyer. There is the same boom in the young calf trade that there is in the bullock market, and farmers are preparing to rear calves extensively.

A reference to statistics shows that this is not the first time that farmers have set about increasing their herds, for between 1868 and 1892 the number of cattle in Great Britain increased from 5,423,981 to 6,944,783. The number in 1882 was 5,807,491, and in 1887 6,441,783. The increase was steady and continuous, but appeared to gain in force after 1882, which would seem to show that it had its origin to a great extent in the widespread laying down of arable land to grass which occurred about that time. Some of that increase might be put down to a decrease in the number of sheep during those periods; but both would be really affected by the same cause, the increased acreage of grass, for the latter is distinctly favourable to cattle raising, whilst arable land and rotation cropping favour sheep. Before farmers rush to extremes in buying up and rearing calves, good, bad, and indifferent, it would be well for them to ask themselves what they are going to do with all these animals in two years' time. Will they feed them, or find customers who will do so? What are the prospects for beasts being dear two years hence? We are likely to see grain all round dearer in the immediate future, and that will tend to increase arable cultivation, and, consequently, sheep breeding. There is only one thing—dear beef for at least three years—which can at all justify reckless rearing of second and third-class calves. The best are nearly all reared by their breeders.

The statistics for 1897 show that since 1892 cattle had decreased in number to 6,500,497, or by nearly half a million, and from this we may fairly infer that seven millions were more cattle than Great Britain could profitably maintain; and, just as water finds its level, so over-rearing had brought about the inevitable reaction. We see these ups and downs frequently in connection with pigs, but the sow breeds twice as quickly as the cow, and is also immeasurably more prolific, so that there can be no fair comparison. There is no reason, however, why cattle raisers should not act on the same principle as many shrewd pig breeders, and rear calves when they are cheap. As a rule, although there has lately been a notable exception, cheap sows produce dear porkers, and the same might very well apply to cattle.

We have always contended that calf rearing consistently carried on is a profitable business, but we should lay great stress on consistency, and not allow fluctuations in the beef market to disturb the even tenor of our practice. As this is the time of year when milk is most plentiful and cheap, it is the best time for calf rearing. There is little need to resort to the use of milk substitutes. There is nothing like the real mother's milk, and especially if the calf draws it direct from the cow. The natural and, we think, the best way is to let the calves suck, but care must be taken against gluttony. Excess of milk is responsible for a great part of the mortality amongst calves, and as there is rarely much difficulty in inducing cows to act as foster-mothers, most of them adopting readily as many as we require them to do, the healthy, by which is meant the moderate allowance of milk, is easily arranged.

We have had deep milking heifers which, being awkward customers to milk, were allotted to calf rearing. Having milk enough for two calves, these heifers, if restricted to one, either killed it with indigestion or made veal of it. But we want to rear calves, not let them die, even at the hands of the butcher; therefore we give the heifer two calves, feed her well, and we rear two thrifty animals. The heifers must have fully adopted the youngsters before they

are allowed to go out to grass with her. Until that time they must be kept in the shed, and she must be brought in to suckle them twice a day at strictly regular hours, and as near a twelve hours' interval as possible. The sooner, however, that they can be allowed to run out with her the better.

When the calves are three months old they may be weaned, and newly-born ones given to the cows in their place. But there are disadvantages about this. If the weaned calves are not to lose ground they must have a little skim milk in a bucket at least once a day, and this should be gradually reduced in quantity. They will do well on clover amongst sheep if the field be near home to allow of constant attention. They must have a feed of linseed-gruel after the skim milk is withdrawn, if not before; and they must have 2lb per day of crushed oats and bran mixed from the time they are weaned. All this food and attention would not be needed if they were left with the cows, so it is plain the extra calves are not reared for nothing.

We had a cow which regularly reared eight calves in a season—two threes and a two. She was a terrible kicker, but would allow any calf to suck, and was most useful as a foster-mother. Sometimes cows are not due to calve until autumn, having already been in milk a long time, and giving but a small quantity. It is hardly worth the trouble to milk such a one, but she will rear a calf out at grass, and thus pay for her keep. Scour is practically the only enemy calves have. As a rule it is caused by indigestion from over-feeding, but sometimes from a chill. A dose or two of castor oil is the best remedy; but if it is not taken in time, and the scour is severe, a tablespoonful or two of the ordinary cholera mixture, given two or three times a day in gruel, is the best medicine to give. A fresh egg occasionally is also a good thing. It can be broken in the mouth and swallowed, shell and all together. When giving the cholera mixture we should continue the course of castor oil.

As cattle grow older there is another disease to guard against, and that is blackleg. It is caused by the animal thriving too rapidly. On some pastures young cattle are very liable to blackleg. Such pastures should not be stocked with any cattle under two years of age, the grass being too strong for younger ones. Young cattle in boxes or close yards are also liable to this complaint in February and March if they are highly fed and kept too closely confined. As the days lengthen, and the sun gains in power, food must be reduced a little, and ventilation attended to. Flour of sulphur, given once a week in the food, would also reduce the danger to a minimum.

Work on the Home Farm.

The wished-for change to warmer conditions has been realised, and the weather is now favourable both to the growth of vegetation and the carrying on of farm work. Bright sunshine, almost uninterrupted by showers, has warmed the land to a seasonable point, and the effect on all crops is great. Wheat is greatly improved, and even the thin pieces may possibly make fair crops. Barley, which had been more affected by the cold winds and frosts than we thought, is now growing well, and promises to be the crop of the season. Another nice rain would do it good. Oats also look well—better than for some years.

With the return of warm weather we can get on with Swede and Turnip drilling. There is a splendid mould, neither too wet nor too dry, and we expect to see the seed up very quickly. Yellow-fleshed Turnips have done so much better than Swedes last season, that on chalky and other cool soils which are suitable for them they threaten to almost displace Swedes. They are very useful for sheep feeding, but do not take the place of Swedes for cattle, and we think the latter worth trying again. If there should be a failure, which seems very unlikely, there would be time to redrill the ground with Achilles Hybrid before harvest. This was done with much success, to our knowledge, last year.

The Scotch Up-to-Date seed is beating all the new kinds, as we rather expected it would. New varieties often get more credit the first season than they deserve. Farmers do not allow for the influence of the change of soil when comparing their new highly puffed kinds with the older, but perhaps really more reliable, ones.

Beef keeps scarce and very dear, as also store cattle; but the sheep markets are very full, and there is a decided slump. At a local market good killable lambs, which were expected to make 40s. or thereabouts, were bought in by their owners in preference to letting them go at 23s. and 24s. There were practically no customers for the over-large supply. We suppose the majority of farmers will prefer to sell their sheep because they are cheap and keep their beasts because they are dear. That is generally the kind of course they pursue.

Grand New Climbing Rose DOROTHY PERKINS.

The Floral Committee were unanimous in giving this an AWARD OF MERIT when shown by me at the Royal Horticultural Society's Meeting at the Drill Hall, on May 20th.

See Report in this Paper of May 22nd.

This beautiful novelty is a hybrid between Rose Wichuriana and Madame Gabriel Luizet; the flowers are produced in large clusters of a lovely shell-pink with white centre. Besides being a good climber, it can be grown as a fine pot plant.

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" " " " in pots	30/-
" " " " in pots	35/-
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" " " " in pots	35/-
" " to colour, started, out of pots	60/-
" " " " in pots	65/-

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Journal of Horticulture.

THURSDAY, JUNE 12, 1902.

Overtime.

WORKING overtime among gardeners has the stamp of age to pass it along with credit from one generation to another. It is, perhaps, not so commonly practised in the present day as formerly, when a gardener, young or old, who abode as strictly by his hours of labour as his master did to the wages he offered must have been somewhat of an horticultural curiosity. The reason for working overtime in gardens is to be found solely within the ranks of the gardening community itself. There appears to be an innate something abiding in the breast of every gardener that never fails to urge him to either keep up to the mark or to excel either himself in the past or others. It is an excellence that has placed the gardener in the abstract on a higher footing than most people of an equal standing socially. He carries himself as one that has not only done his duty to his employers, but who has done even more than mere duty demanded, because he was so anxious to give of his very best.

The young gardener has been brought up in the same school. While serving in a garden, that to him is the objective of his best endeavour; and he also thinks less of sparing himself than of having "things right." You may shorten the working hours, but once the passion for working overtime overtakes one, they are not once thought of; and so we have the strange anomaly of a man desirous of a shortened day, who, at the same time, makes no objection to extend his hours of labour indefinitely. When a journeyman I have on many occasions, and without any sense of having done more than was necessary, worked from 4 a.m. till 9 p.m. As a fact, it was more than was at all necessary, and experience has since forced me to conclude

READERS are requested to send notices of Gardening Appointments or Notes of Horticultural Interest, intimations of Meetings, Queries, and all Articles for Publication, officially to "THE EDITOR" at 12, Mitre Court Chambers, Fleet Street, London, E.C., and to no other person and to no other address.

that want of management on the part of myself or others was the sole reason why overtime had to be resorted to alike in kitchen garden, flower garden, or hothouse.

At the present moment the number of gardeners who are daily working far beyond the hours they have agreed for must be enormous, and I have not the slightest doubt that generally work could be so arranged and men handled as to compress all the labour within due working limits. The fault, or, shall I more correctly call it, failing, that proves a usual hindrance to keeping work in hand, is the common practice of letting some work stand so long that it becomes imperative to spend an exaggerated amount of time in bringing it into line. It perhaps may require from three to six times the number of men, or, in other words, days, that it otherwise would if taken in time, and by a well known law in horticultural operations, time lost on one item is lost entirely, and some other work must in turn become so far past the right moment to overtake that the loss is repeated on that.

The failing, in a word, is cumulative in its results, and finally extends to many gardening operations, and can only be brought to a satisfactory conclusion with the advent of winter, if then. Common instances of how time in this way is lost occurs in lawn-mowing, walk-edging, and cleaning, hoeing, which becomes wasteful immediately weeds become a hindrance to rapid working. Allowing crops to stand too long previous to transplanting consumes time in many ways, but particularly in the item of increased watering, which, in general, may be discounted when planting is thoughtfully managed.

A very regrettable leakage occurs through want of care in apportioning men to particular work, and of the same nature is the practice of sending more men to a job than can be profitably engaged. One might go on indefinitely, but to perhaps no good end. It is so entirely in the hands of the superior, and it is not so easy to change from bad methods to good ones; but to young men who think for themselves, and are not bound to rule-of-thumb practices that are obviously deficient in common sense as a practical working base, many matters will occur that will show it possible to dispense with overtime in the garden, just as it is in other estate departments, and as it should be in that.—R. P.

Plant Breeding Conference.

The council of the Horticultural Society of New York announces that it has completed arrangements for the holding of an International Conference on Plant Breeding and Hybridisation in the fall of the present year, the dates selected being September 30, October 1 and 2. Acting under the instruction of the society at its annual meeting in May, 1901, the chairman of the council addressed letters of inquiry to prominent scientific societies and individuals interested in progressive horticulture, both at home and abroad, to all the agricultural experiment stations in America, the United States Department of Agriculture, and the Minister of Agriculture for the Dominion of Canada, in order to enlist a widespread support and to ascertain views as to the most convenient date for the attendance of the majority of those interested. The responses were unanimously in favour of holding such a conference, and the dates announced were finally selected by the conference committee, consisting of Dr. N. L. Britton, chairman; Dr. F. M. Hexamer, J. de Wolf, H. A. Siebrecht, and Leonard Barron, secretary.

By the co-operation of the American Institute of the City of New York, it is arranged to hold the sessions of the conference in the lecture hall of the Berkeley Lyceum building, 19-21, West Forty-fourth Street, New York City. This conference will provide for the reading and discussion of papers, and the discussion of special topics pertaining to the subject of plant breeding and hybridising. Arrangements are being made for the publication of a complete report of the papers and discussions in book form under the auspices of the society. In connection with the conference there will be an exhibition of hybrid plants and their products, and of the related literature, to which everyone is invited to contribute. Awards of the society in the form of medals, diplomas, and certificates may be made to exhibits of plants and plant products of hybrid origin illustrating some particular plant or plant industry. It is further proposed to add to the interest of the gathering by making arrangements to visit points of interest in the neighbourhood; and for the convenience of visiting delegates suitable hotel headquarters will be arranged near the conference hall.

The active support of the following institutions has been promised and delegates appointed to attend the conference:—Bureau of Plant Industry, United States Department of Agriculture; Department of Agriculture, Dominion of Canada; Royal Horticultural Society of England, American Pomological Society, Massachusetts Horticultural Society, Pennsylvania Horticultural Society, Society of American Florists, American Institute of the City of New York, New York Botanical Garden, School of Practical Agriculture and Horticulture, American Pharmacological Society, Torrey Botanical Club, New York Florists' Club, Colleges and Experiment Stations of the United States. A large number of papers have been promised, including "Recent Experiments in Hybridisation," by C. F. Hurst, England; and "Selection vs. Hybridism," by F. W. Burbidge, Dublin, Ireland.

June Broccoli.

Of the months of the year, Broccoli claims a greater share than the more delicate Cauliflower, and though the time may have arrived when the former declines in favour, there still remains a desire to prolong the season of one of them, so as to completely overlap the other. By common consent this is the aim and object of gardeners and seedsmen alike, and, favoured with sufficient glass accommodation to forward a few of one of the early forcing sorts, it is easily possible to do this, given reasonable weather.

The past winter has been a moderately severe one, and in some localities inflicted a telling influence on the beds of winter and spring Broccoli; but, bad though it has been, worse ones are easily recalled from this one particular point of view. Broccoli in May are usually plentiful enough; indeed, it may be called the month of Broccoli, but it often happens that the end of May finds the gardener at the end of his tether with this particular vegetable. Where ambition can be met by ample means there is the possibility of getting the early batches of Cauliflower ready some time before Broccoli becomes extinct; but, under ordinary circumstances, I do not see the gain in this apparently unremunerated labour. Certainly, Cauliflowers are more delicate in flavour and colour, but its hardier relative, cut in a young state, and the variety a good one, there is not so much difference as to justify the effort when this has to be met by glass forcing.

We have cut some Models, Continuities, Late Queens, and such like that would almost challenge the early Cauliflower in their purity of colour. Veitch's Model is a particularly good Broccoli for the end of May, and it has the merit, when the stock is true, of being so thoroughly protective of the "curd," or flower. The head is protected by leaves when in a young state, almost as close and tight as a Cabbage, and in this state I repeat that a Cauliflower has the gain of but a slight advantage. Dickson's June King is another fine variety, and one I have only made the acquaintance of this season, but it is one that will get another "engagement." This, though not protected exactly in the same manner, is easily tied up, because of its ample foliage. This, in a young state, is beautifully white, and is one that is accommodating in size and purpose; in other words, it may be made to suit the dining-room or servants' hall, ranging as they do in size from 3in to a foot across the head.

Though in nature these Broccoli are late, it must not be supposed that Broccoli can be had in June if the seeds are sown in March and April. These dates do well for the early and midseason varieties; for the later batches the sowing must be timed to suit the season. We are cutting at the present time—early June—Broccoli the seed of which was not sown until about the middle of that month in 1901, and some I find were not finally planted until August was becoming well spent, yet these later planted batches are not later in maturing than the others not penalised in their time of starting, and are equally as strong in plant.

It is courting defeat to promote vigour in June Broccoli by early summer planting, and to give them rich ground. It is apparent to the observant mind that a change of weather, or from the merging of winter into spring, there is an activity promoted in the progress of both leaf and stem. Plants now are quite twice the size that they were in March. Their condition then to a casual observer would not have raised a complimentary note, but few now would be inclined to decry their strength of leaf or breadth of head.

It is, therefore, obvious that early sowing, correspondingly early planting, nor strong ground is a desideratum in the production of late Broccoli, no matter what the variety may be, and there are a sufficiency of these to be found in any catalogue, apart from and including those mentioned in this note, to suit the later Broccoli season, June.—W. S.

***Odontoglossum crispum ardentissimum.***

A plant of this variety—bearing a raceme of five strong, large-sized, and well-shaped flowers, coloured rich maroon-purple over white—was shown by M. C. Vuylsteke, Loochristy, near Ghent, at the Royal Horticultural Society's Show, in the Inner Temple Gardens, on May 28, 29, and 30, and received a First Class Certificate. It is one of the O. c. Frantz Masereel class, and was, indeed, one of the finest *Odontoglossums* at the Temple Show, £425 being paid for it by an amateur.

The Week's Cultural Notes.

Although up to the present we have had no great amount of heat, in all probability it will not much longer be delayed, and a great deal of shading and damping will have to be done in the cool house. This department in summer causes more anxiety to the grower than the houses containing the more tropical subjects. These latter revel in ample heat and moisture, but the *Odontoglossums* from the purely Alpine heights

***Odontoglossum crispum var. ardentissimum.***

in Central and South America, the Cape Disas, the Masdevallias, and the lovely little cool *Oncidiums* cannot live in it.

Air they must have, and in plenty; but to open the house wide in the middle of a summer's day would be to court failure, the atmosphere drying much too quickly under such conditions. The house should be heavily shaded at such times, the ordinary blinds being supplemented by mats laid on the roof, and kept constantly moist by syringing or turning the hose on them. Early in the morning and late at night the house should be opened widely, doors and ventilators, while plenty of water should be used frequently for damping all available surfaces, such as the stages, walls, and floors.

The plants themselves do not care for a lot of overhead moisture; just a slight syringing is all right, and very refreshing, but if the atmosphere about them can be kept moist without it, a heavy douche of water should never be given cool Orchids. As midday approaches, and the sun gains more power, the house should be gradually closed again, and the atmospheric moisture still kept up. By these means the inside of the house will always feel pleasantly cool and moist on entering from the external air, and this will ensure the well-being of the plants.

The latter must be brought well up to the light, the ordinary method of staging high at the back and low at the front being about the worst possible for them. Let the plants follow the slope of the roof, not go opposite to it, and then each gets its fair share of light. This is a little more trouble, but it is well repaid by the increased vigour of the plants. It will be almost impossible now to prevent the green slime from growing upon the pots and stages, owing to the great amount of moisture required. But do not let it go too far, as it tends to clog the pores of the pots and prevents that free access of air to the roots that is so desirable.—H. R. R.

On Compounding Pot-pourri.

When taken as a youngster into a drawing room of a friend's house, my eye fell upon two large handsome jars, and, with natural curiosity I inquired what these had in them. I was told they were pot-pourri jars, and also what the article was. Of course I wanted to see and smell pot-pourri, so, when in the room again, I took a chance of lifting the lid of one. To my surprise, I saw scraps of paper, burnt matches, bits of string, and other odds and ends—the jar that should have been sacred to fragrance, people had turned to base uses. Doubtless, this was not a solitary instance. Pot-pourri was for a time out of fashion; its name would indicate that the compound was a favourite in France, thence introduced to us. But centuries before that, probably, our village dames had bunches of some wild flowers brought into the cottages, which they dried, and hung up to perfume their rooms. The French name is peculiar, being applied to dishes of a compound nature, or to any sort of medley, besides a mixture of flowers; the second half of the word comes from a verb meaning "to rot." Very often, unless properly dealt with, an assortment of flowers, stalks, and leaves speedily become rotten or decayed.

Indeed, we gather from history that the old Greeks and Romans, also some Oriental nations of antiquity, selected fragrant flowers which, carefully dried, would retain their scent a good while. The Greeks, it is said, placed these upon the altars, in baskets, or little heaps; by the Romans such dried flowers were scattered along halls and laid, inches deep, in reception rooms. We have no list of the flowers used, but the Rose is specified as one, and our pot-pourri would be of little value without this flower, which has always been an important item. Unquestionably, at least in modern times, this compound was prepared not only for its perfume, but because it had the reputation of warding off diseases. Miss Jekyll, in her "Home and Garden," has given us some of her experiences in making pot-pourri, and has also brought together several notable recipes.

We quote a sample—here is one presumed to be of old date and rather vague: "Put into a large jar Damask and other single Roses, buds, and blown flowers. Add to every peck a large handful of Jasmine blossom, one of Violets, one of Orange flowers, 1oz sliced Orris root, the same of Benjamin (Benzoin), and Styrax; two or three handfuls of Clove Gilliflowers, allspice, pilled Marjoram, and Lemon Thyme, and of Lemon, Balm of Gilead, and a few Bay leaves. Chop all these, and mix them with bay salt, covering the jar, also stirring occasionally." This is a rather elaborate compound, and, as Miss Jekyll remarks, Rosebuds are of little value, the aroma being slight before expansion. Chopping, too, with such an assortment, would hardly be effective, and to get a good result must be followed by bruising or pounding.

Spices, of course, appear in most recipes, and the dried Sweet Flag is a favourite. Musk and oil of Rhodium figure in some. The addition of pepper to a few might be to give pungency, or to act as a preservative. Miss Jekyll objects to this, and to a great variety of spices. Here is a simpler recipe, probably of the eighteenth century: "Pick your Roses when they are quite dry; it ought to be the red single Apothecary Rose. Strip them, being sure to utilise the little seeds from the centre, and have a large earthenware jar. Between each layer of Rose leaves shake in two or three handfuls of bay salt and of powdered spice, Cinnamon and Cloves; upon the top pour some Lavender water. Add more as it sinks." But what is the Apothecary Rose? An able botanist told Miss Jekyll he was unable to say, but Dr. Christison averred that the original Rose of pharmacy was *R. Gallica*, which scarcely agrees with the description. Several recipes give preference to the Damascus Rose, but Miss Jekyll considers petals of any fragrant Rose in good condition answer well. Then the authorities do not agree about the drying, whether it should be done in the sun or the shade—the advantage of the latter is the petals are dried more evenly.

Concerning her own operations, Miss Jekyll gives us ample and interesting details. The greater part consists of Rose petals and Sweet Geranium leaves, the lesser quantity being Lavender, leaves of Sweet Verbena, Bay, and Rosemary, with some Orange peel; Orris powder and various spices being added as a finish. Of the two kinds, dry and moist, the former is more easily made, but from experience the latter is to be recommended; it is sweeter and lasts longer. The grand point is to have the materials in a particular condition, "limp and leathery," this lady calls it, which is discovered by practice. Preparing pot-pourri on a somewhat extensive scale, it is found convenient to place the fresh ingredients in separate jars, though this is not necessary if the quantity be small. Salt is added to each article, a mixture of bay and kitchen salt, after it has been sufficiently dried. This salt combines with any moisture that may remain, while it preserves the mass from decay or mould. Packed tightly in the jars, the ingredients, obtained as the growth of the plants and the season permits, are allowed to remain till near the end of October, before the final mixing process is accomplished.

A beginning is made as early as February or March, when Seville Oranges in good condition are peeled, and the strips stuck closely with Cloves; these are placed firmly, but lightly, in a jar,

then salt is sprinkled over. Much care has to be given to that important item, Rose petals. Gathered by the basketful, they are laid out upon hempen cloths, not more than 3in thick, and at the first opportunity they are pulled through the fingers, to separate them as much as possible. Lavender must be laid thinly, and turned now and then; it should be cut when the flowers near the base of the spike are well expanded. Sweet Geranium, Miss Jekyll says, should have its leaves stripped at once from the stalks, and all but the smallest broken into three or four pieces. The leaves of Verbena, Rosemary, and Bay are generally put into the jars at once. Spices and gums are added after, when the process is completed, these being first mixed in a large bowl. These are specified as Orris powder, allspice, mixed spice, mace, Cloves, Benzoin, and Styrax. A brick floor is suitable for the concluding operations. Some energy is needful to clear out the pressed stuff, which has repeatedly to be forked and stabbed! —J. R. S. C.

The Question of the Fruit Supply.

One of the best articles I have ever seen in any of our leading horticultural or, for that matter, agricultural papers in relation to fruit-growing as an industry is the one in your issue of April 24 signed "H. D." The invitation to capital to enter upon what is virtually an utterly deserted field of human activities is most meritorious and opportune, for I call top-fruit growing in Great Britain (Cherries alone excepted) a miserable failure, whereas small fruits are comparatively successful, and fruit "under glass" challenges the world. Early vegetables are another comparative failure, because we utterly ignore the problem of "site" in relation to such, as well as to adequate top-fruit production.

Capital would not displace the actual hardy fruit grower. What capital would displace, on proper management, is fruit grown abroad with foreign capital, and that is precisely what we want to do. No need of "protection." Choose "protected sites" now wasting, and the battle is won! It is a beautiful incongruity of the times that land is so largely in hands of unprogressive ownership, not unlike that prevailing in French Tahiti, where the native landowners will neither part with their soil nor cultivate it themselves. It is scarcely a commendable attitude for British ownership, of which I had practical experience a few years ago when separately addressing several dozen mighty names and others in the kingdom, for the purposes here under discussion, without any results, through their languid ineptitude.

The difficulty of getting men with capital to embark in fruit growing to anything like an adequate extent, is well characterised by "H. D." He hits the nail in no less effectual a manner by deprecating what I should call the rule-of-thumb man, who insists upon Kent, Worcestershire, and Herefordshire as the alpha and omega of all success, whereas there need not be many letters of the alphabet omitted, each representing a county for top-fruit production, if intelligence rises to the level of what is a good site, on which all depends. I put this factor as No. 1, and at No. 2 I say again, "a good site," ready made, or that can be made so by means of wind-breaks. All the rest comes of itself to a man who understands the business, which very few do on up-to-date lines, or what I should call superior to up-to-date, or is there perhaps no reason why we are so backward in this simple industry, as is proved by the enormous annual importations? Foreign nations, who supplant us in our own markets even, have only partially adopted the right plans, of which our islands are especially favoured to be able to grant the exploitation, but which is utterly ignored for convenience.

Who are the foreign growers who can command the market by the brand distinguished with grade? Very few indeed. The well-known brand of Californian Newtown Apples, in cases, is perhaps the nearest approach. It is easy, however excellent the Newtown is in its season (best in February-March), to beat the style at home, if business principles are allowed to prevail, such as apply to factories, and a package (but let us hear no more of our grandmotherly bushel baskets) contains exactly what it purports to contain. What a gulf between this ideal and the grandmotherly emblem of torture having a flattened top and pigs' food beneath. Until large home growers solve the question by being able to command the market and succeed in selling on the "brand" and "grade," our efforts must be called inadequate.

There is reference made to the egg trade in the recent correspondence on fruit. Perhaps "H. D." will excuse me if I differ from him in allowing this picture to prevail as a relevant one. I contend that the average quality of foreign eggs, at twenty a shilling retail, is not only on a par with, but superior to, average British top-fruit in bushels, and that unless we raise a sufficiency of good Apples exceeding the present average by not less than that by which British new-laid eggs exceed the average foreign eggs, our top-fruit growers will remain in a submerged condition. "H. D." is also perfectly right in discountenancing select soils

for fruit. Do not select an altogether uncongenial cold medium; but as to soil, it must be made on the spot, if not present on a site. Only compare the method of the growers of superior vegetables round Paris. If they must move, through extension of the town or other causes, they cart their entire garden to the new place, soil and all, so precious has it become by working. The gulf between this proposition and what men at home would do to prove their perseverance is as great as between the two orders of Apples and eggs referred to.

As to capitalists, "H. D." is also again thoroughly in the right in affirming the security of a fruit plantation well ordered under an expert as a highly satisfactory investment. How any money can be lost upon it is an enigma. Freeholds comprising sites were never cheaper, trees are a very moderate expense, and, unless mismanaged, loss is virtually impossible, as trees are growing into money "while you sleep," as the Scotch laird opined, which can be said with so much good faith for few investments.

The extension of such enterprise to national requirements, if done with intercropping, followed up by increasing size of holdings and other items, giving opportunity for keeping up with the times by introducing unexceptional novelties, would signify the gradual banishment of hardy foreign produce, worth ten millions sterling annually, now imported. The rural exodus would be thereby largely neutralised, and if other factors in this country, characteristic of colossal waste by omission and commission, were equally attended to by Governments, yet ignorant of national economics as a science, the stream to town would be reversed to the opposite course.

Our official returns give some 220,000 acres under top-fruit. That all but 20,000 acres of these should be felled and new sites selected elsewhere may seem drastic; but even individuals are compelled to have their teeth extracted—analogue to the typical farmers' orchard, his step-child on which all the indignities in the world have been heaped—before they obtain fresh ones allowing them to masticate and prolong life. Nothing impresses so well in a lecture as objects thrown on a screen. A wealthy man coming from Virginia, as "Herefordshire Incumbent" relates, and limiting his supply of localities under the inspiration of the Royal Horticultural Society to certain crack localities, already deprecated by "H. D." and by myself, and causing applicant to return unsuccessfully, and start his venture of fruit growing in America, is hardly a matter to be ignored, for that object thrown on a screen—that object-lesson to this nation of an American grower proposing to do what British capitalists refuse to do—is needed far too emphatically for the purpose of the nation being "wakened up."

As to patriotism to be imported into the question, as is done on page 388, in your issue of April 17, by Mr. Iggulden, the point is irrelevant in connection with business matters, quite as much in country industries as in matters of city concerns, which it absolutely is in practice. I was, not unlikely, guilty of a great misdirection of purpose in writing four years ago that, unless our top-fruit growers woke up betimes, our splendid sites would be picked up by foreign capitalists to grow fruit for us at our own homes. A large and well-known fruit-growing concern, for export to Great Britain, actually took a City office in London, opposite the Bank of England, five years ago, in order to be enabled to obtain the assistance in London of extra capital from British investors for the extension of their well-conducted, highly prosperous concern of growing fruit in France for the fastidious British consumer.

"Herefordshire Incumbent" cites another similar example, obtained from the same society, where an unsuccessful applicant disposed of himself elsewhere instead of succeeding in finding a seller of land, a condition of things which my repeated experiences in relation to excellent freehold sites in southern counties absolutely traverses. The capital, insufficient for the purpose I have in mind, was the stumblingblock, although figures demanded were altogether reasonable. When "Herefordshire Incumbent" says he thinks that he believes these to be quite specimen cases "out of numbers," the matter is only aggravated to the disparagement of *savoir faire*.

I admire "Herefordshire Incumbent's" thrust at our ruling State policy in favouring the foreigner at the cost of the British citizen, the grossest example of which incompetence is notably the free importation of flour, the actually just imposed trifle being a mean and meaningless measure, while that on Corn is a blunder. The village Corn mills, of which 18,000 have been placed hors de combat over the quixotic Free Trade craze, has done immeasurable harm, and is responsible for a large proportion of the disappearance of village life and the rural exodus.

When Mr. Molyneux, on page 322 of your issue of April 10, under "Grafting Apple Trees," speaks of cutting down 200 bush trees of Ecklinville Seedling Apple trees eight years planted, therefore, say, ten to eleven years old, such prolific bearers should make splendid returns. Mr. Molyneux states that he found the Apples difficult of sale in his part on account of complaints of the manner in which the soft skin of this Apple becomes disfigured by the frequent handling necessary in a fruiterer's shop, with the result that he cut the trees down and grafted 1,200 grafts of the more saleable sorts. Considering the prime productiveness of

Apple trees at the age of ten years, it seems a case of absolutely missing the economic point of the question. Mr. Melyneux could scarcely expect similar productiveness of the new grafts under six to seven years. Perhaps he adhered to sending the Apples to town in the grandmotherly bushel baskets, instruments of torture that should have been long ago replaced by neat cases, non-returnable, in which the fruit would sell well and easily. Nor should railway freight be a repelling element, for we have first-rate authority in the Royal Horticultural Society's volumes in a treatise on "Commercial Fruit Growing," first published some seven years ago, after submission in competition to the Society and gaining first prize, for we there find that the nearest best paying markets were 150 miles away from the writer's place of production.

What "G. H. H." says on page 381, of your issue of May 1, is also very true in the main, but his *laissez-aller* process is too slow, more like natural evolution than intelligently assisting nature in a comprehensive way according to the times we live in, for all the extra leisure we afford the foreigner increases our disability to meet him, and the struggle will be another lengthened guerilla warfare, instead of a sharp decisive encounter, which is the only truly economic method with the cheapness of freeholds in our favour actually. What "G. H. H." calls "too much individualism" on the part of growers I can only characterise as a state of unblessed independent ignorance—nay, obstinacy—to quit old grooves, resulting in the refusal of co-operation on principle, which sorely reacts on railway rates, a chronic waste which smacks of puerility. "Get the fruit from the trees and into the market," is the maxim, as "G. H. H." correctly points out. Never mind anything else!

"Observer," who enters the lists, has evidently a nearer horizon than the problem is susceptible of. When prices sink to an unremunerative level, it is the rubbish which sinks so low, grown irresponsibly on the 200,000 acres of trees that ought to be felled. "Observer" finally avers, in your issue of May 22, that Potatoes, in descending below a remunerative price since last crop, prove the illusion that home grown top-fruit in plenty can sell at paying prices. The case of Potatoes is only another instance furnished by Hop growers last season, when they allowed their produce to be beaten down below the price at which foreign could be imported, with a loss to themselves. Here is merely the British type of unblessed independence that has to rise above merely looking over the hedge, and must take a comprehensive survey on the despised principle of co-operation. "L'Union c'est la force!" as every Belgian coin tells us.

In Great Britain the quixotic idea prevails that opposition is the crux, the marvellous waste incurred by it in Parliament being the most comprehensive study of "how not to do it," if the science of national economics is to have a voice, which our Colonies will soon insist on teaching the unprogressive Motherland, which requires to be "woke up," as the Prince of Wales, fresh from Colonial impressions, said at the Guildhall last October, and which the late Cecil Rhodes said on an earlier occasion at a Cannon Street Hotel meeting three years ago.—H. H. RASCHEN, Sidcup, Kent, May 26, 1902.

P.S.—When your habitually interesting contributor relative to agricultural matters, as in the case of page 397 of your issue of May last, despairs of the resuscitation of the gentleman-farmer in saying there is no room for them now, were to peruse these lines, he might reconsider his verdict. The farmer proper, for returns, is not in it with the results probable from my suggestions, and he would easily save money, even if he lost some by pure agriculture and cattle farming, that his taste might require him to enter upon, as a *sine qua non* for undertaking "superior to up-to-date hardy fruit" and "early vegetable cultivation on selected sites."

Backward Devonshire.

The following paragraph, taken from "The Western Mercury," admirably describes the remarkable thriftlessness and unenlightenment that prevails in regard to horticulture in one of the loveliest and fairest corners of this wonderful land of ours:—"The spade (says the paragraph) is still an almost unknown tool in Western Devon and Cornwall. This implement requires the wearing of a boot or shoe for the protection of the foot in its use, and as the inhabitants of these counties still employ the long handled shovel worked by the hands only, without the aid of the foot, it must be assumed that up to a comparatively recent period, like the Irish and Highlanders, they worked barefooted. Efficient garden cultivation requires the use of the spade, and to its absence is probably to be attributed the non-existence of the well cultivated allotments so common in some districts. The remains of old orchards are very numerous in the more sheltered valleys of both counties. Little attempt appears now made to tend them or to grow fruit on modern plans. Yet these counties probably contain many localities as well adapted for the production of fine and early fruit and vegetables as the Channel Islands or the adjacent portions of the Continent from which our towns now draw so great a proportion of their supplies."



In England and Paris.

The following interesting account of the Chrysanthemum exhibitions and gardens seen by Mr. T. Pockett during his recent trip to Europe was read by that gentleman at a recent meeting of the Horticultural Society of Victoria, Australia, and reported in the Melbourne "Weekly Times." Mr. Pockett's lucid narrative was listened to with much interest and pleasure, and at the close of the paper the meeting accorded him a hearty vote of thanks.

Anyone interested in the culture of the "Mums," for this is the name by which they are known best in the old country, must admit that no other flower has made such rapid strides during the last twenty years, and, further, there have been more "Mum" shows held during that time than all other flower shows combined. The cause of the popularity is, to a great extent, owing to the wonderful results obtained when skilfully cultivated. Their season is also a long one in England, ranging at least from August to January.

Early Varieties.

The early flowering varieties (of which we know very little) make a brave display in many of the public and private establishments, where they flower freely in the open air during August, September, and early in October. In the near future we in Australia will certainly plant them more extensively, more especially in the cool districts, where they would be a great success. Many people here will know that early white variety, Lady Fitzwigram, and when I tell you that there is a large number of various colours that are dwarfer, earlier and better than that variety, you can realise how important they are for beds, borders, or the general decoration of gardens, and especially so where flowers are required in great numbers for cutting. These early flowering varieties are grown by scores of acres by market growers, and as I had opportunities of seeing a very large collection at Mr. Wells', Earlswood, Surrey, I will here give the names of those that appeared to me as the best of the early Japanese varieties: Parisiana, Goacher's Crimson, Madame Marie Masse, Crimson Masse, Orange Masse, Victor Mew, Rabbie Burns, Mychett Beauty, Mychett White, Market White, Louis Lemaire, Harvest Home, Golden Queen of the Earlies, Ambrose Thomas. The dwarf early flowering Pompon Chrysanthemums. I noted were: Mrs. E. Stacey, Pierce's Seedling, Mrs. Selby, Mignon, Toreador, Madame Tolworth, and Blushing Bride, many of the latter not one foot high.

Japanese Varieties.

But what appears at present of the greatest importance to the majority of the Chrysanthemum enthusiasts are the large Japanese varieties, and while in England I watched them very closely during the various stages of growth. I also recognised a number of varieties that I was familiar with in Australia, more especially at Wells and Company's Nursery; in fact, this place was always open for me to visit, and sometimes it was "Mums" from morning till night. They are grown principally in 7in, 8in, and 9in pots, and carry from one to three blooms each. The most interesting time to see them is when they are carefully housed and coming into bloom. While the show lasts the public are allowed the privilege of seeing them, but Sundays appear to be the time most favoured. This will apply to other Chrysanthemum traders, also to shows made at the various public parks and gardens, where this flower is one of the chief specialities of the place. A large collection is also grown at Mr. H. Cannell's, Swanley, Kent. About 2,000 or more are grown for large blooms, and there I went through them with Mr. Cannell's Chrysanthemum grower. Australia was again well represented in this collection, with such varieties as W. R. Church, General Hutton, Nellie Pockett, Mr. T. Carrington, Phyllis, Lady Roberts, &c., many of them almost developed. If the collections had been smaller I might have imagined I was with Chrysanthemums in Australia.

Visit to Paris.

In Paris I visited four nurseries where Chrysanthemums were a speciality. The first was Mons. Nonin, and as he is also a raiser of some repute, I felt anxious about what he might have to show me. There is not the expense in the glass structures in the market growers' establishments here on account of a milder climate than England, consequently the structures are more portable, and partake more of the form of sashes, or glazed lights, that are placed over the plants just as they are coming into

bloom, and which just allows room for a person to walk underneath the roof. However, a large quantity are grown, including early flowering varieties, seedlings, also the best market varieties. Some are as bush plants, while others are for three or five flowers in 8in or 9in pots. They are not so vigorous as those seen in England, and are much dwarfer. There were a few promising seedlings, which will no doubt, after further trial, be heard of later on. Mons. Clement, another market grower, has two specialties, Roses and Chrysanthemums. The latter are grown in pots and in beds, but covered with glass; the plants carry about five blooms each. He also tries a limited number of new varieties, and judging from what I saw there he will find some of the Australian varieties will give good results, and be as good for market as any French kinds. What he favours most is a dwarf grower, a full flower and stiff flower stem.

Monsieur Lemaire was next visited. He has, perhaps, three acres of "Mums" in pots, and they are all arranged for covering with glass. These are in 6in or 7in pots, carrying about five flowers each. The number of plants treated this way may be estimated at 45,000. The plants looked well, were dwarf, well grown, and did not consist of many varieties.

The most important nursery establishment in Paris is Vil-morin, Andre and Co., and "Mums" are not by any means forgotten, for there is a portion of the nursery devoted to them. A quantity are grown in 7in pots, similar to plants already referred to, and they also grow a quantity of specimens in 12in pots, and carrying thirty or forty blooms each. The houses which were small, were portable, and were so arranged that the length could be added to to any extent. This firm has raised some seedlings they speak very highly of; but the season was not sufficiently advanced for me to give any definite opinion, but they certainly had great promise of being good.

English Growers.

One of the most successful growers of Japanese "Mums" of recent years in England is Mr. W. Mease, gardener to Mr. Alfred Tate, Downside, Leatherhead. I had the pleasure of seeing his large collection, and I really thought they were in the pink of condition. The plants were arranged in rows, and the greatest care was bestowed on them. There were also well built houses being got ready for their reception. These were grown principally in 9in and 10in pots, and the plants ranged from 4ft to 9ft high; the number would be from 1,000 to 1,500.

Another grower, Mr. C. J. Salter, of Chrysanthemum fame, gardener to Mrs. T. B. Haywood, Woodhatch, Reigate, had a very large collection. Perhaps 1,100 plants were grown for large blooms. The plants, I believe, were taller than usual. I saw this collection on several occasions, and they were a fine show when in flower. It was this grower that spoke so highly of the Australian varieties some years ago.

I saw many other collections in various stages of growth, but what will be of the greatest interest now to the members will be the blooms, so I will now deal with the shows held during the season of the best blooms, where I was an eye-witness, and, in many instances, it was an "eye-opener."

(To be continued.)

Feeding Wall Trees.

From the present time onwards through the summer all wall fruit trees make great demands on the soil, especially in the matter of moisture, and as food can only be conveyed to the roots through the medium of the soil moisture, it is an important matter to secure an abundance for all the demands of the plants or trees. Trees on easterly walls are liable to suffer sooner than others, but many causes combine to prevent the soil receiving due amounts of moisture, hence trees on all aspects must be examined when the fruit has set and is prepared to swell.

It is first necessary to moisten the soil with clear water, and then give a liberal supply of liquid manure. The manure ought not to be applied to young trees, but the moisture in the soil should be maintained. As a further aid to retaining the soil moisture a mulching of manure laid over the roots is of great assistance, it prevents rapid evaporation. Water may be applied from time to time over the manure, which will carry down soluble matter into the soil.

Thinning Fruit.

Active swelling of the fruit is apparent now with all species of trees on walls and in the open. All trained trees on walls, and choice, small restricted trees in the borders, such as bush, espalier, and pyramid trees, are benefited by the fruit being thinned. It is not possible to thin large bush and standard trees, but the smaller specimens, which can be so treated, are in every way benefited. The fruit not only attains to a larger size and better quality, but the strain upon the trees is greatly lessened. The fruit buds for the succeeding year have a much better chance of plumping up, and results are better in every way.—S.

On Fruit.

(Continued from page 466.)

Growing, Gathering, Ripening, and Keeping Fruit.

In the storage of fruits, it has been observed that sweating affects the qualities of Apples more than other fruit, probably because they are oftener kept in bulk, and under more varying conditions; therefore, in these remarks, we shall refer particularly to Apples. When fruit is placed in thick layers of over 6in or 8in in depth a free circulation of air is much impeded, especially with fruit on the ground, or on closely fitting floors, when air has access only to the upper side of the heap.

The air in such cases becomes saturated with the escaping moisture of the fruit, and there being but little circulation through the centre and lower part of the heap, the moisture increases, and the accumulation of heat is sometimes so great as to lead to fermentation. In a little while the combined results of evaporation and fermentation is the rotting of the fruit. Nor is this the only injurious consequences of sweating in the heap, for there are most likely to be two processes of fermentation proceeding at the same time.

Aside from that caused by the excess of humidity, which makes the fruit sometimes greasy to the touch, there is a deteriorating action of the same influence, breaking up the structure of the fruit itself. The sweating of fruit, therefore, cannot be too much deprecated or guarded against.

The Colouring of Fruit.

In Apples, especially the familiar red varieties, it is found that some are but little coloured; these are always such as are most shaded whilst growing. In a number of varieties, one side will be found larger than the other; the larger side is that next the sun, in consequence of more sap flowing to that side. This difference is more apparent in some sorts than in others. The same irregularity is observed in Pears. The fullest or largest side of the fruit is almost invariably that which is most warmed and influenced by heat of the sun.

Through the whole range of orchard and garden fruits, the place to find the largest, ripest, and sweetest specimens is where the sun's rays have most influence. The precise nature of the causes which lead to this one-sided enlargement of certain kinds of fruit is not fully ascertained. Colour, it is well known, exerts an influence on the absorbing powers of any substance as regards heat. Several dark colours increase this power, and greater radiation follows as a consequence.

In substances of a given colour, rougher or more uneven surfaces admit more heat than smoother ones. Fruit loses its colouring matter when ripened on the tree, and when the rate of evaporation is increased at the time the fruit is changing from growing to ripening, or directly after the growing is complete. Gathering early results in the retention of nearly all the colouring matter, and the fruit afterwards becomes much brighter and more highly coloured. This is a point of much importance, and should be better understood than it is by fruit growers.

Early Gathering Prolongs Keeping.

If early gathering was more generally practised, many of the conditions damaging to fruit would be prevented. When the rate of growth is very slow, it is safer to gather fruit a little before it has done growing, for the reason that it is more difficult to check or arrest the incipient decay characteristic of the first stages of ripening or mellowing, than to retard or in any marked degree prevent its commencement. Early gathering insures the best results in keeping.

Fitness for gathering is not always clearly indicated by outward appearances; but fruit for keeping should never be allowed to hang on the tree as long as it will. A test recommended by experienced Pear growers is when the stem parts easily from the fruit spur. If this is correct in regard to Pears, it ought to be of Apples also. But there are many varieties which it would not be safe to trust to such a test; some sorts will hang on long after they are fit to gather.

During the process of growth the seed cavity serves as a reservoir for holding a supply of juices, but when growth has nearly ceased the moisture disappears from this cavity, and it becomes empty and comparatively dry. This condition affords two modes of judging of the degree of maturity the fruit has attained. One is, the slight rushing sound the seed makes when the fruit is shaken, and the other is to open some of the fruit as soon as this hollow state of the seed cavity can be detected, and if the seed has changed to a pale brown colour, it may be assumed that the fruit is fit to gather. It is not so safe to wait till the seeds are a dark brown.

The general condition of the leaves as to colour, and the degree in which they adhere to the branches also afford means of estimating the state of maturity of the fruit. After fruit is gathered its resistance to evaporation is increased by every successive reduction of temperature down to 32deg Fahrenheit, when evaporation and the wasting of the fruit cease together. Generally, the temperature of cellars and fruit rooms is not, and need not be, kept down to that point.

Early gathered fruit can be so managed as to have it much more fully coloured than if gathered late, and the keeping qualities, which are even more important, are increased by the same management. The nutritive qualities of fruit must always be of higher value than mere appearances, though the latter greatly affect prices in the market. Early gathering insures both results in the greatest perfection.

Overripe or fully ripe fruits must be sent to the market at once, or else they must be kept in a very cool house in order to thoroughly stop the chemical processes within the fruit, and when they are taken from storage they are very likely soon to decay. Pears are especially liable to lose quality by fully ripening upon the tree. The cells of the fruit fill up with



The Conservatory in Lathom Gardens.

gritty mineral matter, much to the detriment of the texture. It is ordinarily considered that the best time to pick a Pear of any variety is just as soon as it reaches its full size and before it has begun to colour.

A Peach is fit to pick when it is full grown and has begun to develop its characteristic colour. Peaches and Apricots do not ordinarily colour up well after they are picked, although Plums usually will do so. In the case of Cherries and Plums it is very important that the fruits be gathered just before they have reached their condition of most edible quality. This is largely because the fruit-rot fungus is very likely to destroy the fruits at the time of their ripening. At full maturity of the fruit the rot is usually very active.—J. J. WILLIS, Harpenden.

(To be continued.)

Conservatory at Lathom House.

Lathom House, Ormskirk, Lancashire, the family seat of the Earl of Lathom, is historically famed, and it is only right and proper that we should also look for something interesting in the horticultural phase. In this the visitor is not disappointed, for the Earl and Countess, greatly beloved by all the tenants and workpeople on their beautiful estate, are thorough enthusiasts over the fascinating pursuit of horticulture, and their words of praise are highly encouraging to their well known head gardener, Mr. B. Ashton, who brings the greatest intelligence into all his undertakings. The handsome conservatory, so well depicted on this page (from a photograph by Mr. Ashton's thirteen-year-old son), has been entirely remodelled under the head gardener's supervision, and the illustration gives a perfect idea of this charming feature of interest which adjoins the mansion. In it you have a magnificent wall effect, grand tufa boulders reared to the roof so as to produce the most natural result, with Begonias and Ferns in variety; also many other suitable subjects depending in graceful profusion. A wide gravel path winds through the whole, at each extremity of which are towering Tree Ferns (*Dicksonias*) whilst in the centre, and by the wayside, as it were, a pond, encircled by a moss-covered border, with dot plants of *Abutilon vexillarium variegatum*, is cool and restful. A moss-covered border also follows the course of the conservatory on the front side, and simply contains a row of half-standard Roses, whilst at intervals a W. Allen Richardson or Gloire de Dijon Rose cover large expanses of the roof and are rarely out of flower, simply because mildew and green fly know them not. Simplicity with a due regard to natural effect, has been the one thing aimed at, and right well has it been carried out.—R. P. R.

Liverpool Keeping Pace.

If ever there was a go-ahead Parks and Garden Committee Liverpool possesses it, for only during last week a new playground, surrounded by a handsomely built Ruabon brick wall, with shrubby borders and grass verges, and a centre of Southampton gravel, takes the place of the large, unsightly cinder expanse at Mrs. Birt's Sheltering Homes, a prominent corner of Myrtle Street. The Lord and Lady Mayoress performed the opening ceremony, and there were many notable citizens present, a charming bouquet of Catherine Mermet Roses and Lilies of the Valley being presented to the Lady Mayoress by the daughter of Mrs. T. G. Williamson. It is said that one gentleman has defrayed the entire cost.

At the City Council last Wednesday, the valuable Calderstone Estate in Allerton Road, over which the well-known William Tunnington of Chrysanthemum fame has so faithfully presided for Mrs. Charles Maciver, was recommended to be purchased for the purpose of a public park, the price fixed being £43,000. Surrounded by giant Oaks and spreading Coniferae, it will prove a great boon and a lasting benefit when in the not distant future the picturesque part will be merged in the great seaport city. One regrets seeing old estates broken up, but in this case there is no cause

for it, as tired workers will be benefited, and the city will see that their work is not abused.

A handsome new building, the Botanical Laboratory, now rears itself at the corner of Brownlow Street, is imposing to a degree, urgently wanted by students, and a perfect boon to Professor R. J. Harvey Gibson, the popular lecturer on Botany at University College, Liverpool, who has for years been carrying on his studies under anything but satisfactory conditions. This valuable addition to the College is the gift of W. P. Hartley, Esq., a great supporter of the University, and will, when thoroughly equipped, be on an equality with any in the kingdom. The opening ceremony was performed by Sir W. Thistleton Dyer, in the presence of a large assemblage. The building will cost about £20,000.—R. P. R.



Leaf Curl in Peaches.

In reply to the query put by "Inexperienced," on page 454, regarding the proper strength of Bordeaux mixture for use as a spray on Peach trees, "J. W." sends a postcard advising "Inexperienced" to obtain Cousin's "Chemistry of the Garden," wherein he will find formulæ for several efficient fungicides. Owing to pressure of work, "J. W." finds himself unable to reply at length.

The Florists' Type of an Alpine Auricula.

You give, in the issue for May 22, p. 447, an illustration of an Alpine Auricula which is not altogether a perfect model of what an Alpine Auricula should be, and may I be pardoned for presuming to criticise it? [Certainly, we live to learn.] The engraver has most undoubtedly done well in producing an illustration giving so many good points, but I venture to think he cannot have had before him a modern Alpine of the best type. To begin with, there is no shading, and, for good or ill, our modern judges will not look at an unshaded flower. Again the tube is too large for a neat Alpine. Such a large tube would not appear to a disadvantage in stage Auricula, where it should be of a beautiful gold colour, surrounded by a pure white paste; but such a gaping tube in an Alpine would be most objectionable. I also notice every flower in the illustration is given with five petals only. Now, in nature this would look bad, because it would give only of course five anthers in a large tube. I think it will be found that the best blooms have seven petals, and certainly never less than six. I have before me as I write five typical blooms of the varieties Mrs. Martin Smith and Mr. Gorton, two of the best gold centres, and Thetis, J. F. Kew, and Winifred, certainly three of the best white centres, and in each case I find there are seven petals, and the tube is no wider than the width of the paste (or, at any rate, only the least bit wider), and having seven anthers to correspond with the number of petals, the tube is beautifully furnished without any ugly gaping void. I should be glad to hear the opinions of others on this matter.—RICHARD HOLDING.

Birds and Bird Nests: Curiosities.

Two weeks back Mr. Burr, now of our town (but lately gardener to Mr. Beadle, C.C., of Erith, in the county of Kent), and who was a very successful competitor at the West Kent Chrysanthemum and Fruit Show held at Bexley Heath, was gathering a dish of purple sprouting Broccoli in a field in the village of Willington, a village about five and a half miles from Bedford. When beginning to pluck the shoots of one plant a green linnet flew out, and on a casual search he found the linnet's nest in the centre of the Broccoli, and within the nest there were five eggs. I have carefully searched all the books I possess—and they are many—on the birds and their habits, but have failed to find an instance of a similar nesting-place of the linnet, nor one of an approaching similarity. Perhaps one of your numerous readers may be able to report from practical experience some such similar instance. I write "practical," for I do not care for traditional or hearsay evidence. I have myself verified this linnet and the Broccoli as being quite distinct from the bee and the Honeysuckle, for bees do not rush the Honeysuckle where White Clover exists and thrives. Another curiosity, and this one I can personally vouch for, as I have seen it myself and hope to see it again this afternoon. At the village hostelry of Biddenham (Biddenham, the home of that world-famed agriculturist the late Charles Howard, Esq., the "pet" of nearly every Bedfordshire agriculturist) there is growing a magnificent Maréchal Niel Rose tree, on a short standard, between a half and full standard, only six years old, but with quite 400 to 500 buds on it, and covering a very large wall space. On one horizontally trained branch I noticed two birds' nests—one a thrush's the other a blackbird's. The thrush was sitting, the blackbird just finishing the building of her anticipated youngsters' home, and the distance between the nests—both on same branch and on same level—was but 12in. I hope to be able to send you a photograph of the tree and nests, the nests being plainly visible, but shall wait until Messieurs les Maréchals are basking in much warmer weather than that which we are most unfortunately now experiencing.—I. A. W., May 20, 1902.

Profitable Late Apples.

Will "H. D." kindly state which, if any, of the late Apples he recommends—both dessert and cooking—are of an upright habit of growth. Cox's Orange, I presume, is of a spreading habit. At least, this is my experience on a small scale. I particularly want some full standards of upright habit to grow over Cob Nuts, which will not bear much shade. I am not particular about very late Apples. Any that are ripe not earlier than November will do.—BEGINNER.

The Bothy Plan.

In my first article regarding this subject, I did not state that there was to be no fire in the room simply because I advocated hot-water pipes being laid round the place; neither did I say that six rooms were not needed. I fully qualified my statement. If six rooms could be provided, then well and good. Still, I maintain that if the whole structure is to be one-storied, then the heating of each room by hot water is fully justified. A large room cannot be properly heated with a fire at one end, and if the fire receptacle is a large one, then, when fully made up, it would be impossible to comfortably sit near it. Excepting the reason for a Parliamentary vote, "Mac," on page 433, differs very little from me in essential points. A bothy with the bedrooms upstairs must be more healthy than one with those apartments on the ground floor.—H. R., Kent, May 24.

The True York and Lancaster Rose.

I do not think you have, in your answer to "S. S.," quite brought out the point as to which is the true York and Lancaster Rose. There are two particoloured varieties, which are often erroneously called York and Lancaster: Rosa Mundi, which is red striped with white, and occasionally self-red; and Village Maid, which is white, striped with red. These belong to the French Rose section (R. Gallica), and are not very strong in growth; and the two are now held by the National Rose Society to be so much alike as to be considered synonymous. The true York and Lancaster is, as you say, a Damask Rose (R. damascena), but the N.R.S. amalgamates these two species (Gallica and damascena), as it is difficult now to separate them. The true York and Lancaster is a better grower than the two first mentioned, though the flowers are inferior. Its great point is that the flowers come either wholly white, wholly red, red striped with white, or white striped with red, and these differently coloured flowers are sometimes to be found all at once on a fine bush. It is clear that a variety which will actually have self red and self white flowers at the same time, as well as striped and splashed flowers in all proportions of colour is most worthy of the name of "York and Lancaster."—W. R. RAILLEM.

Coronation Trees.

It is fortunate in some ways that the majority of trees planted during Coronation time are likely to be dried ones, taking the shape of good poles with bright flag foliage. For commemorative trees are often an abomination, especially when planted from the open in July. Small plants in pots, or rather those that have been grown for a time in pots or tubs, are, of course, sure enough if tended afterwards. The Yew makes a splendid tree for this purpose—it is "made in Britain," and therefore is a fine subject for patriotic purposes. Add to this its fine permanent foliage and habit, and what could one desire more? A Yew should thrive well for a thousand years; after 2,000 years of age place a strong railing around it. Another permanent tree is the Hazel. Many a "mickle makes a muckle" is the Scotch version of many little makes much. And the life of the Hazel is built up of a series of "mickles." A few years after planting the Hazel it will be a bit of a puzzle to know the original stem from its strapping suckers, but, of course, this does not matter. Really, the Hazel is an everlasting, for a tree will remain for all time.

If, in going through a garden, you see a tree quite unornamental, and altogether out of place, be sure it was planted by some special person, or on some special date. Such trees are sometimes unsuitable for the site; they neither grow properly, nor do they die. It is only history—important, or it may be trivial—that keeps them from the axe. Perhaps some would feel justified in cutting them down and substituting

others, attaching the former labels. This fraudulent tabling is commonly done to new houses that are erected on the sites of demolished residences of famous men. Tablets to Hogarth in Leicester Square, Turner in Queen Anne Street, Marylebone, and to Byron in Holles Street—all in London—may be cited.—D. S. FISH.

Gardeners' Education.

This subject, now under discussion in your pages, is very interesting I am sure to thousands of gardeners, but I am afraid the educational point of the matter is out of the question. What young man getting the handsome salary of sixteen or seventeen shillings a week can find funds to buy the books recommended by Mr. Divers? The majority of books connected with gardening are expensive. And if a young gardener gets all the books Mr. Divers names, and spends much time over them, what gardener is going to engage him if all his learning is got mainly by theory? My little experience is this, that the man who does the biggest day's physical work is the man who is wanted. It also seems to me that so soon as a gardener attains that desired head place, his whole desire is how many days a week he can get away from the place. I don't mean to say all are the same, but in my case, after fifteen years with several, I found them mostly the same. And as "A Domestic Gardener" says, the garden is left in charge of the foreman.—ANOTHER UNFORTUNATE.

Bothies as Moral Nuisances.

The following letter has unavoidably been held over for two weeks:—"What a lot of questions Mr. 'C. H. S.' (page 454) wants answered! I should have thought, as he knows exactly why bothies are such objectionable places, he would have been quite competent to answer just one little question without requiring such a lot of data on the subject before the one, and only one, question can be adequately answered. If I take the questions as they are set forth, and carefully study each one, I may, perhaps, be able to answer one or two; but what an examination! (1) If I had a son, and it was his ambition to become a professional gardener, I should expect him to live in the bothy if such was provided; but the rudiments of his future character would have been thoroughly taught to him beforehand. The bothy life would undoubtedly prove the amount of grit he possessed. (2) Is not a sensible question. John Bull can, and does, make his home the whole world over, but he has only one home, and that is the parental home. (3) I have had the misfortune to be laid low in a bothy, but not on an inhospitable bed. Everything that possibly could be done for my comfort and welfare was reasonably considered. Had I been in a hospital I could not have been better cared for. (4) Is practically the question (2) differently worded. When a fellow goes out into the world he cannot take his home with him, so he simply takes what comes and makes the best of it. A good many bothies are what those inhabiting them make them perhaps. (5) Most head gardeners have tasted of bothy life, and therefore know by experience the advantages and disadvantages of the system. I venture to write that few self-respecting men would uphold a system, or anything else, if it is so degrading and demoralising. (6) Please, Mr. 'C. H. S.,' gardening is a profession, and not a trade. The young gardener in his bothy is better off, as my experience goes, than the shop assistant, with his room or lodging to make up the deficiency in his wages. (7) and (9) are questions which I consider to be insulting to the profession. I shall soon expect to see in the advertisement columns: 'Wanted, only men previously experienced as patients in a lunatic asylum,' seeing that sensible, intelligent young men can find employment, and God-fearing, sympathetic employers, elsewhere. Everybody knows that 'gardening' is not 'paid for,' so question 8 can stand out.

"In connection with question 6, I would ask 'C. H. S.' what substitute he can offer for bothies, and does he consider lodgings outside the place practicable for gardeners, whose constant duty it is to be always at hand. I wonder if the author of those nine questions has ever been in a bothy? He surely has not lived in one. I heard them (the questions) pronounced as absurd by a bothy resident who had spent over a decade in a 'moral nuisance.' By his quotation, I fancy 'C. H. S.' is mixing bothies and bothies, for there are good and bad, though he appears to think them all bad. The bothy is, I believe, of Scotch origin, and was a place used by gillies, shepherds, and farm servants; both sexes being housed under the same roof doubtless was the cause for Cobbett's statement. It is impossible to think that he had the gardener's bothy in mind when he compared the Scotch bothy system to the arson crimes committed in Kent.—H. R., Kent, May 24."

NOTES

NOTICES

Peaches on Plum Stocks.

At a recent meeting of the New York State Fruit Growers' Association it was stated that the practice of budding Peaches on Plum stocks has had a thorough trial for a series of years—with disastrous effects on the Peaches thus placed on uncongenial feet. The trees seem to grow vigorously for a few years, then stand still for a while, and finally die. On the other hand, Plums have done very well on Peach stocks.

Irish Gardeners.

The Irish Gardeners' Association held their usual meeting recently in D'Olier Street. Although the chief business was purely of a society character, the secretary announced a reply had been received from V. Inglis, Esq., acknowledging the vote of condolence passed by them to Lady Inglis on the death of her husband. The meeting was adjourned after several members were proposed for membership.—A. O'NEILL.

Temple House Gardens, Great Marlow.

I herewith enclose register of rainfall for May, 1902. Rain fell on twenty-four days during the month, and there was thunder on the 3rd and 7th. There were six hailstorms—viz., on the 3rd, 5th, 7th, 9th, 14th, and 18th. The highest maximum temperature was 70deg on the 24th, and the lowest minimum 29deg, on the 13th. The highest maximum for May, 1901, was 84deg, on the 29th, and the lowest minimum 31deg, on the 4th. The rainfall for May, 1901, was 0.60.—GEORGE GROVES.

Ghent International Horticultural Exhibition.

The schedule for the fifteenth great show of the Royal Agricultural and Botanical Society of Ghent, to be held from April 18 to 26, 1903, at Ghent, Belgium, has reached us. Altogether there are 670 classes, embracing groups of plants, Orchids, Palms, Cycads, Conifers, succulents, &c., and groups also of fruits. Floral decorations have a section all to themselves, and the concluding part of the schedule represents horticultural arts and industries, as in plan drawing garden statuary, vases, and other forms of embellishment. The secretary is Mr. M. E. Fierens.

More Victorian Apples.

Mr. J. M. Sinclair, Superintendent of Exports for the Victorian Government and Representative of the Department of Agriculture, Victoria, 153, Leadenhall Street, London, E.C., informs us that the Victorian Department of Agriculture has forwarded, per Oroya, 100 cases of selected Victorian Apples, which are being exhibited at the Floral Hall, Covent Garden to-day (Thursday) and to-morrow (Friday), and sold on the latter day. The consignment consists of the following varieties:—Rowe Beauty, S. Nonpareil, Stone Pippin, Yates, Rymer, French Crab, Hoover, Statesman, and Jonathan. They are of a finer class than any previous consignment this season, having been selected with a view of showing the excellent quality of fruit produced in Victoria.

New York Botanic Garden.

The annual report of the Garden for the year 1901 has been issued. Director-in-Chief Dr. N. L. Britton states that in the herbaceous grounds the total number of species of plants grown is about 3,020; the fruticetum contains 512 species, the salicetum 43. In the arboretum the total number of kinds of hardy trees, including those native to the tract, is over 290. The viticetum comprises 62 species of Vines and trailers; and in the nurseries the number of species represented is about 1,000. In the public conservatories the number of species has been increased to 3,400. The director-in-chief adds: "The operation of the new houses will now necessitate and permit an entire rearrangement of these collections; a detailed plan for this has been elaborated, taking into account the practically doubled variety of temperature and humidity conditions which the range will afford, and which will enable better cultural results to be reached than has hitherto been possible for lack of such varied conditions." The total number of species, both wild and cultivated, in the Garden is 9273.—("Florists' Exchange.")

Homefields Recreation Ground, Chiswick.

This new recreation ground for the inhabitants of Chiswick, London, was opened to-day (Thursday, June 12) by the Mayor of Chiswick. The ground possesses a splendid new cricket pitch, and is between eight and ten acres in size, and can be entered from Chiswick Lane.

Ipswich Flower Show.

The Ipswich and East of England Horticultural Society's show will be held on Wednesday, July 9, in the beautiful grounds of the Upper Arboretum, Ipswich. The judges are Messrs. S. T. Wright, H. J. Cutbush, W. Allan, and J. Burrell. For schedules apply to the secretary, Mr. H. E. Areher, 13, Museum Street, Ipswich.

Coronation Rose Show.

At this show, to be held at Holland House, Kensington, on June 24 and 25, all assistants and attendants at groups shown by trade firms must wear a badge with their firm's name. There can be no exceptions made to this rule. The badge used must be the one approved by the Council, and no other. The badge can be obtained from Mr. Pinches, 27, Oxenden Street, London, S.W., price 1s. each.

Plum Trees Suffering in Herefordshire.

At a meeting of the Council of the Royal Agricultural Society of England, held on June 4, Mr. Wheeler presented a report by the Society's consulting botanist (Mr. William Carruthers, F.R.S.) upon a widespread injury in Herefordshire to Plum trees, the young twigs dying off, and the cause of the injury being the parasitic fungus *Monilia fructigena* (Pers.). The report recommended that the dead twigs should be removed and burnt.

Southampton Rose Show.

The Southampton Royal Horticultural Society held their annual summer show and exhibition of Roses on July 1 and 2, as mentioned by us last week. The show is held on the Pier, the Pavilion being an ideal place for showing Roses. We have seen cut blooms at the end of the second day much fresher than they would be after three hours in a hot tent. Following close on the Coronation Review, Southampton will probably be full of visitors; a good attendance should therefore be secured.

Echoes from Hamilton.

May has at last come to an end, and we doubt not that we are echoing the feelings of most people when we say that few will be sorry. In many respects the month of May has much to offer. This year, however, it has forced upon us the unexpected as well as the undesirable. Perhaps few live, if indeed any, who ever remember such an inauspicious opening of our summer season. Almost without exception every day has been abnormally cold. To-day, the last, is, if not considerably worse not a whit better than the preceding ones. The wind is very cold, with heavy rain from the east, at times increasing to a gale. Much damaged foliage will inevitably ensue. The outlook is not so promising as a month ago. The hay crops in many districts will be poor, and fruit blossom, especially Apples, is certain to have received a shaking. We must forbear to be pessimistic, however, and look out with hope for brighter times eventually to arise. Among the Romans this month was of considerable note. Like ourselves, they did not generally approve of May marriages. The first day of the month was observed by the Vestal Virgins and Roman women as a day for performing the sacred rites of the "Bona Dea," a ceremony believed to ensure the safety of the Empire. The second day was "Compitalia," when boys were sacrificed, it is said, for the conciliation of the goddess Mania, mother of the Lures. Junius Brutus, however, abolished this heathenish custom. The ninth day was "Lemuria," a performance of rites to the Lemures, the ghosts and spirits of the departed. These occupied three days out of the six following. On the 13th, or Ides, the Vestal Virgins let fall from the Sublician bridge into the Tiber thirty rush images of men, and these represented so many old men who were at one time deposited into the river instead. The merchants' festival also took place on this day. It was spent in prayers and offerings to Mercury. The 23rd was "Vulcanalia," on which day the holy trumpets were purified.—D. C.

Richmond Flower Show.

The annual flower show of the Richmond Horticultural Society will be held on Wednesday, July 2, in the Old Deer Park, Richmond. Special silver cups are offered in competition for Roses and fruit; the Rose cup (twenty guineas) being the Gunnersbury Park Silver Challenge Cup, presented by Leopold de Rothschild, Esq.; the other being of the same value, and presented by Mrs. Max-Waechter. For particulars and schedules apply to the hon. secretary, Mr. C. R. King, 61 and 62, George Street, Richmond, Surrey.

Hunting for Coronation Trees.

With reference to the proposal to plant two trees in Barrack Park, Dundee, on Coronation Day, Mr. Carnochan, the Superintendent of Public Parks, reported to a meeting of the Committee that he had put himself into communication with nurserymen all over England and Scotland, but could find no one to supply him with trees over 8ft in height suitable for the purpose. In his extremity he had selected two Oriental Plane trees, which he had lifted and prepared for being planted. The Committee approved of his action.

Primula sinensis, Single and Double.

Sowings are now being made for the provision of next season's display of Chinese Primulas. Most of the great seed houses furnish excellent strains, the resulting plants being robust, of good habit, floriferous, and possessing flowers of substance, size, and brilliancy. The illustration on page 515 may remind the busy gardener to act at once, and so give his seedlings time and a chance to become ideal plants and well developed before the cold, dull days of winter. The double varieties are now favourites; those who have not grown them might for once try to.

Edinburgh Notes.

May has proved a cruel month for Edinburgh vegetation. Not that this city has alone suffered, for the flower destroying element has been widely distributed. The streets and roads with arboreal features had an autumnal aspect by reason of the numerous leaves torn and scattered by the blast. Many rock garden plants have been prematurely shorn of much of their beauty, for instead of a summer's sun to air them, hail, sleet, and rain, with severe winds, have been thrown into their delicate flowers. Of course, the blossoms of fruit trees have had a rapid downward flight.—D. S. F.

United Horticultural Benefit and Provident Society.

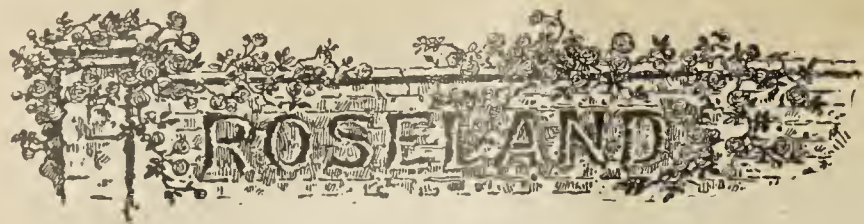
The monthly committee meeting of this society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday evening last, Mr. C. H. Curtis in the chair. The minutes of the last meeting were read and confirmed. Four new members were elected, making a total of fifty-seven this year. The death certificate of the late Mr. J. N. Forbes was produced, and the amount standing to his credit in the ledger (£4 1s. 5d.) was directed to be paid to his nominee. Three members were reported on the sick fund. The amount of sick pay for the month was £9 12s.

Ipswich Mutual Improvement Society.

At the last meeting of the above society, held on June 5, the president, Mr. R. C. Notcutt, read a most interesting paper on "Hardy Flowering Shrubs." Mr. W. Messenger presided over a small attendance, the annual show of the Suffolk Agricultural Society no doubt proving a greater attraction. In his opening remarks Mr. Notcutt alluded to the comparative paucity of flowering shrubs in shrubberies planted twenty years or more ago, but welcomed the greater attention which they are now being given. Discussing the question of planting, he recommended the massing of several plants of a species together rather than dotting them about indiscriminately without any definite aim or purpose. Lists of shrubs for general planting, for planting by the sea, those benefited by the shelter of a wall, and those requiring a peaty soil were given. The essayist exhibited a nice selection (some forty or fifty bunches) of flowering shrubs from his Woodbridge Nursery, including several varieties of Lilacs, Azaleas, Rhododendrons, Berberis, Spiræas, &c. Mr. Whittel, of Pinchoft Gardens, exhibited a well-flowered spray of the Judas Tree (*Cercis siliquastrum*), also a fine specimen herbaceous Calceolaria.—E. C.



PRIMULA SINENSIS, SINGLE AND DOUBLE.



The Rose Liberty.

I saw this Rose used to perfection a day or so ago as a bouquet flower. Used in the right place it requires a lot of beating. It is truly the best royal red Rose grown. I saw some bridal bouquets made up loosely, and with much taste, of this Rose. On long stalks, with own foliage, excepting a few pieces of *Adiantum cuneatum*, it wanted nothing, and was simple, exquisite, and rich. The Rose is perfect, and makes an exceedingly pretty dinner table. In the lamp light the red is of the richest.—H. R., Kent.

Roses by the Wayside.

A short paragraph in a daily paper tells how an American lady who lives in the Isle of Wight has planted Roses by the side of a newly-formed road. The same authority states that they are properly fenced in and protected, and the necessity of this will be obvious to those who have any knowledge at all of the ways of the British public where flowers are concerned. Considering the accommodating character of many flowers and shrubs usually confined to gardens, it seems a pity that more of them are not planted in woodlands and by waysides to brighten rural landscapes, but there is, unfortunately, not much encouragement to plant. Unless "properly fenced and protected," I am afraid they would be regarded no more than are the wild flowers and Ferns that are so ruthlessly pulled up and carried away to die an untimely death in places unsuited to their requirements.—H.

Seasonable Hints.

Everybody will want to make the most of their Roses this season, and doubtless in the majority of gardens special efforts have been made in regard to pruning and manuring in order to secure a profusion of fine blooms. During the next three weeks much can be done to give size and substance to the flowers, and by keeping them free from insects, to have both foliage and flowers fresh and beautiful at Coronation time.

Both bushes, standards, and climbers look particularly promising at the present time. The recent cold weather retarded the growth considerably, and although the severe frosts injured many of the Teas, the H.P.'s and other hardy types seem to have escaped unscathed, and the flower buds are swelling satisfactorily. Neither green fly nor caterpillars are so numerous on Rose trees as during the first week of June last year; this is probably owing to the absence of sunshine and to the frequent rains of the last few weeks. Efforts should, however, be made to entirely free the trees from such pests before the flower buds begin to open.

Hand-picking is still the best means of getting rid of caterpillars at this season, when they are sealed between the leaves, but a dressing of Paris green, or arsenate of lead, if applied before the leaves unfold, is an excellent preventive.

For green fly paraffin emulsion is thoroughly effective, and if all Rose trees were freely dressed with it before the flower buds begin to unfold, we should hear far fewer complaints about the destructiveness of this most prolific of insects. A good method of mixing the emulsion is the following:—Dissolve 1 pint of softsoap in 1 quart of soft boiling water, then add $\frac{1}{2}$ pint of paraffin, and mix thoroughly with a syringe. Before use dilute with ten times its bulk of water.

Those who require large blooms should complete the disbudding of both shoots and flowers as soon as possible. Remove all weak shoots, leaving only one or two young growths on each cut-back shoot. Strong, upright growing kinds, such as *Her Majesty*, *Mrs. J. Laing*, *Merveille de Lyon*, and *Ulrich Brunner*, look extremely imposing when fine blooms can be cut with long shoots, and it is only by thinning freely that such can be obtained. Many of the *Noisettes* and other climbing Roses produce strong shoots, carrying at their points one large central bud with so many smaller ones around, that if all are retained the clusters look too close and heavy, but by thinning the buds freely, so as to leave from three to five around the central one, long shoots with fine clusters are obtained, which are splendidly adapted for arranging in tall vases.

Regular feeding from the present time till the bulk of the flowers have expanded should receive special attention. I am often asked by the owners of gardens if I can tell them why they do not succeed in growing good Roses, and why insects give them so much trouble. My reply invariably is that they do not feed enough. When a Rose tree has once produced plenty of roots, judicious feeding and pruning will generally keep it in good condition for an indefinite time, but in far too

many instances the feeding is done in a very spasmodic manner. At the present time those who have liquid manure at command should by all means water their Roses freely with it after it has been diluted with from four to six times its bulk of water. Whenever the soil is very dry, it should, of course, be watered with clear water before giving the liquid manure.

A good chemical liquid manure may be formed by dissolving 1lb of nitrate of potash and 1lb of phosphate of potash in twenty gallons of water. One pound of Peruvian guano to twenty gallons of water is also an excellent stimulant for Roses, and in showery weather soot, or some good chemical manure, if scattered over the surface of the soil, will prove of immense benefit. When the flowers are unfolding, the application of sulphate of ammonia in a liquid form will help to give high colour; 1oz to 4 gallons of water is a safe strength at which to use it. In many gardens where Roses are highly prized, large numbers are grown in the reserve garden specially for supplying cut flowers. In such cases a heavy mulching of partially decayed manure early in June will do more than anything else to ensure fine blooms and healthy foliage; but in the flower, or Rose garden, dressings of manure at this season are, unfortunately, objectionable.—H. D.

Decorative Fuchsias.

The popularity of these plants for bedding purposes during the past few seasons seems bidding fair to become general. It is to be hoped that it will be so, for when used in the delightful mixed beds seen in our London parks, they cannot fail to prove attractive, and there is a gracefulness about them that lends itself readily to almost any position. The tall specimen plants, from 3 to 4 feet high, springing out from coloured foliage below, are always conspicuous, and the flowers themselves are not too glaring in colour, so that they can be made to harmonise with the surrounding colours if a little forethought is used. How different are these plants from the old-fashioned type, that were almost as broad as high, giving them a dull, heavy appearance; or the old staggers that were wintered year after year, and pruned in early in the spring, so that their unsightly old timbers should be hidden by the new growth! One can only be thankful that such objects were lost during the past decade, and that the young vigorous plants have taken their places.

Where such specimens are required as "dot" plants for the coming season, no time must be lost, for it is getting late already: but those who were looking ahead, and propagated good suitable varieties last September, have time well by the forelock, and at the present time they are pushing ahead vigorously, and will be fine plants for putting out in the beds at the latter end of May or early in June; not only will they be fine plants, but they will be flowering also, and so produce an immediate effect. Even if cuttings are rooted during the present month it is surprising how tall they will grow by the bedding season if only they receive the right treatment.

From the time the cuttings are rooted, the idea should be to make them forge ahead, or, in other words, keep them growing without a check. If the latter should be received by becoming pot-bound, bloom buds are produced, and half-ripened wood the result. This must be avoided, and it can be accomplished by growing the plants under a light shading; this keeps the wood soft. Again, they must not be pot-bound. In the first instance they may be placed in thumbs, and a second shift given them as soon as the roots are seen in a large 60; while the final pot should be a 48 or 32.

If moved on in this way there should be no difficulty in producing plants from 3 to 4 feet high by bedding-out time. Pinching should be avoided, except in cases where a clear stem is desired, so as to be well above the carpet plants. As the leader develops it should be neatly tied to a stake, and as it proceeds the lateral growth will develop naturally.

As soon as the desired height has been attained, or a little earlier, the shading should be removed, so as to partially ripen the growth to induce flowering. During their stay in the houses the syringe must be used at least daily, and in hot weather twice will not be too often; for it not only keeps them clear of aphids and thrips, but growing also. Large supplies of water must be given, and a little weak liquid manure will strengthen the plants, as would any of the quick-acting fertilisers used in a dry state on the pots.

As to varieties, I might add that any of the vigorous varieties will be suitable. Personally, I prefer the single forms, though some of the semi-double kinds are suitable; but I should avoid the large double sorts of the phenomenal type as being unsuitable, for they do not flower any too freely, and consequently are not effective for this purpose. A few of the best that I know are *Mrs. Marshall*, *Rose of Castile Improved*, *Lord Beaconsfield*, *Mrs. G. Rundle*, *Mr. H. Roberts*, *J. Welsh*, *Display*, *Charming*, *Wiltshire Lass*, and *Daniel Lambert*.—AN OLD CONTRIBUTOR.

Old-time Gardening.

(Continued from page 450.)

A list of new introductions of various kinds of garden vegetation may have been expected in the last article, but the plants enumerated by historians are for the greater part so grossly incorrect that I shall pass this matter without further comment.

The First Gardening Book.

We have arrived now at a stage when the literature of gardening can be taken seriously as an important factor in determining the condition of horticulture. The first book dealing with gardening as a subject by itself appeared in 1563, and as "The Profitable Arte of Gardening," several editions were published before the century terminated. There is, unfortunately, little in this book that can be satisfactorily attributed to a directly English source, the writer, Thomas Hyll, or Hill, having been, not a gardener, but a compiler of books on a great variety of subjects. The first of the two parts into which this work is divided is derived almost solely from classic and Arabian authors, and what was modern in the second part can be traced largely to Charles Estienne, a French writer on rural affairs. At the same time the undoubted popularity of the book as evidenced by the short time elapsing between recurring new editions, leads to the expectation that it would exert a decided influence on gardening.

One of the several engravings with which it is embellished (I refer now particularly to the 1574 edition) depicts a small garden oblong in form, enclosed with pales, and divided by means of an inner ornamental wooden fence into an outer and inner garden. Of the latter a knot forms the central portion, and it is surrounded by oblong beds, divided from each other by narrow paths. The space between the inner and outer fence is disposed in long narrow borders. This woodcut is further interesting as showing the termination of a new kind of "Herber." Instead of, as formerly, a closely enclosed "apartment," it would appear now to have extended either wholly or in part round the garden. It was constructed preferably of juniper, but willow poles were also used, and it was "either straight running up or else vaulted or close over the head like to the vyne herbers now a dayes made." Roses were employed for furnishing it with foliage and flowers, or "that swete tree or floure named Jacemine, Rosemarie, or the Pomegranate—unless you had rather decke your herbers comlie with vynes."

In the second part less than seventy kinds of flowers and vegetables are culturally treated, and about 180 plants altogether are named in the book. Lily of the Valley had been not long previously raised to the dignity of a garden flower, and, inter alia, there are interesting chapters on Roses and Gillyflowers. The proposition that nothing under the sun is new receives corroboration in the chapter on Onions, where transplanting is recommended. Carrots also were transplanted, a very good method, by the way, of forwarding the early crop. In 1571-7 appeared

"The Gardeners Labyrinth."

by Didymus Mountain, supposed to be a fanciful rendering of plain "Thomas Hill." At any rate the book is Hill's, with additions, of which the most important are several new woodcuts depicting gardens of the period. One of these presents a bird's-eye view of a garden, oblong in form, and enclosed by a hedge, of which the inner portion arches over, forming an arbour, extending quite round the garden. Like that in "The Profitable Arte," this also shows an inner enclosure, with fence of ornamental woodwork. The arrangement and form of the beds, however, differ.

In this a walk 3ft to 4ft wide extends along the inner side of the fence, and the ground, by cross walks of the same width, is divided into four parts. In length these are as two to one of the breadth, which permits of two square blocks or quarters in each, which in turn are subdivided into eight beds, with 1ft alleys between. The beds in the quarters at each end of the garden are simple parallelograms, the four in the centre being cut through by diagonal alleys, each starting from its own angle and terminating in an oval or square bed which forms the centre of each quarter, and each one furnished with a little tree in the middle. In all there were nine beds in each of the latter squares, and that they were not uncommon may be assumed because "The New Orchard" in the succeeding century contains in the plan of a garden just such another.

The space between the two fences in this case is occupied by a broad walk, and one corner by an apiary, with roof. A workman is busy applying water from a "Dutch engine" to part of the garden, while ladies and gentlemen are looking on. In another cut the garden is walled, and possesses in one corner an oblong "herber," covered with Roses, and furnished with a square table, round which are benches, probably of turf. This picture is further interesting as showing two large beds surrounded with ornamental boards standing perhaps 2ft above the ground. The cuts are of the rudest description, but a Pæony, a Carnation, a Marigold, and perhaps a Primrose are fairly distinct. According to this book walks were still sanded. Labyrinths or mazes are depicted in both the books referred to, and for a long time they seem to have been indispensable adjuncts to up-to-date gardens. It would appear they were planted in much the same manner as knots, with low-

growing material, such as Hyssop, Thyme, Lavender, Lavender Cotton, and Marjoram. It was proper also to plant trees one at each corner of square mazes, "and in the middle of it a proper herber decked with Roses, or else some fayre tree of Rosemary or fruite, at the discretion of the gardener."—B.

(To be continued.)

Certificated Plants.

(Continued from p. 360.)

Botanists now include *Oenothera* and *Godetia* under one genus. The earliest award made to a representative of this genus was as far back as 1860, to the large yellow form of the biennial *O. grandiflora* Lamareckiana, which is a bold and striking subject in the shrubbery border, and which seeds plentifully. It is to be found in seed catalogues under the name of Lamareckiana. The annual *O. bistorta* Veitchiana was introduced from South Carolina some thirty years or so ago, and though its yellow flowers with small blood-coloured spots at the base are freely produced, it never took a foremost rank as a popular annual. But several awards have been made to the representatives of *Godetia*. *G. Witneyi*, introduced from California by Mr. William Thompson, received a First Class Certificate of Merit the same year, and was the means of bringing to English gardens a race of large flowered, dwarf growing, tufted *Godetias*, which flower profusely and are very showy. This has rosy red flowers blotched with crimson. The first new form was Lady Albemarle, dark crimson, awarded a Certificate of Merit in 1876. In 1882, two more new varieties received the same award—Duchess of Albany, satiny-white, and Satin Rose, a bright carmine coloured variety. In 1890 appeared Duchess of Fife, white blotched with rosy scarlet, and in 1891 White Pearl, both similarly honoured. In 1895 appeared Marchioness of Salisbury, white, with rosy pink centre; and two years later the rich blood-red coloured *Gloriosa*, dwarf, compact, and very striking; both obtained Awards of Merit. Several other forms are catalogued, all of a very pleasing character, and some inclined to sport more than others. The latest addition to the group is Lord Roberts, a novelty of the present year, described as of a rich rosy crimson scarlet.

Olearia and *Ophiopogon*.

This is a genus of greenhouse or hardy shrubs, the best known of which is the New Zealand *O. Haasti*, which has proved quite hardy, and is remarkable for the profusion in which it produces its cymes of white blossoms. It has certainly justified the award of a Certificate of Merit, made to it in 1873. *O. Gunniana*, which produces large white flower heads in great profusion, *O. macrodonta*, and *O. stellulata* have all received awards, and all are hardy evergreen shrubs.

The type *Ophiopogon* Jaburan has been in cultivation since 1830; but it was not until 1862 that the variety variegatus was introduced, like the type from Japan, and it received a Certificate of Merit, under the name of *foliis variegatis*, when shown by Mr. Beitt in 1862. It has proved a very useful ornamental plant. Its dense spikes of deep violet-blue flowers are very handsome. It has also proved much hardier than was at first anticipated. A deeper yellow variegated form, named *aureo-variegatus*, received a Certificate in 1879, and it seems to be the form most commonly grown.

Osmanthus and *Ourisia*.

Osmanthus aquifolium, a charming evergreen Japanese shrub, resembling the Holly, has been represented by three variegated forms, viz., *variegatus*, *aureus*, and *nanus*, and all received awards. *O. aquifolium* will be found in most plant catalogues under the name of *O. ilicifolius*, which is a form with smaller leaves. These *Osmanthus* recall the honoured name of John Standish, who exhibited them.

This *Ourisia*, representing a genus of hardy perennial herbs, has had two representatives honoured by awards—one, *O. coccinea*, the scarlet flowers with cream coloured anthers borne in panicle clusters, and introduced from the Andes of Chili; and *O. Pearcei*, crimson flowered. Neither have come into cultivation to the degree expected. *O. coccinea* requires a moist, but well drained, sweet soil; it should not be planted in the full glow of the hot sunshine.

Ostrowskia and *Oxalis*.

This is represented by one splendid species, named *magnifica*. It is a very fine and striking plant, growing to a height of 3ft to 4ft. The large flowers are bell-shaped, white, tinted with pink. I have seen this in very fine character in the county of Kent, growing on raised rockwork, into the openings of which it rooted freely.

Oxalis valdiriensis, which Messrs. Veitch and Sons imported from Chili in 1862, has not fulfilled the promise it gave as a charming yellow-flowered annual, when it received a Bronze Medal in the above year. It finds a place in most seed lists, but it is only sparingly grown.—R. DEAN, V.M.H.

Florists and Floriculture over Fifty Years.

(Concluded from page 467.)

The history of the evolution of our Pansies is interesting. In 1813, a celebrated Cornish Admiral, while out one day enjoying a private walk, gathered a few plants of *Viola tricolor*, and taking them home, said to Thompson, his gardener, "Plant these, and seed them, and try to improve them." The plants had produced much improved progeny by the year of Waterloo, and the progress has been continued adown the decades. It is only when one sees a fine form of a white-ground Pansy of the present day that the great strides that have been made are fully realised. The Fancy Pansy was of later formation than the Show. The *Viola*, as we know it, has arisen since 1862, when Mr. James Grieve, of Redbraes, Edinburgh, started and worked from *V. lutea*, *V. stricta alba*, and *V. amœna*. Mr. John Phillips, a Lancashire gardener, re-introduced *Viola cornuta*, which became exceedingly popular for the ribbon border craze with which everybody in those days was smitten. *Viola Blue Bell* was raised by Mr. R. Dean, and has become so remunerative to one grower at Isleworth, in Middlesex, that he raises 10,000 to 15,000 yearly for Covent Garden Market.

Pelargoniums, Primulas, Tulips.

Those of us who see the miserable Show Pelargoniums that pass muster in these times can scarcely realise how great was the interest manifested by certain of the old florists for these plants. We should like to see a revival in favour of such gorgeous and easily cultivated plants. The Fancies used to be called the Ladies' Pelargoniums, for the same reason that Picotees received feminine names from Mr. Morgan May. They are more floriferous, more slender, and fairer than the Shows. From Slough there still come some good sample Pelargoniums for the public gaze, but Turner's is the only firm that make a speciality of them.

The Zonals have been improved in later times, and are to-day much the more useful and popular. The variegated Pelargoniums were very great favourites twenty years ago, and especially for bedding, but have also declined in general estimation.

Primula sinensis has had some ups and downs, and really came under strict care about the beginning of the period we are considering. Mr. Dean explained that before crosses had been made with the plants growers were never troubled with keeping the seeds of red and of white varieties separate, but sowed them together, and when an order for so many whites and so many reds came to the nurserymen they simply chose plantlets with light leafstalks, and knew they would produce white flowers, and that dark stems denoted red or crimson flowers. But after crossing had gone on for some years it was discovered that the plants with the darkest stems sometimes yielded the whitest flowers! Such is the effect of the infusion of twain individualities.

There was once a time when florists' Tulips were seen in every back garden in every township and city even; but one must now journey to Lancashire if a collection would be seen. Drs. Hardy, Order, and Hepworth were famous old-time florists among Tulips, as so were Messrs. Richard Headley and J. Slater.

Verbenas and "Epoch-making Flowers."

The *Verbena* owes (or owed) its prominence to Dr. Sankey, of Hanwell, who made remarkable strides by seeding the plants and by crossing. Varieties were commonly named, like the herbaceous *Calceolarias*, but few are distinctive and constant enough to be named to-day. This is a genus that would well repay for careful attention.

Mr. Dean then proceeded to deal with "a series of epoch-making flowers." And first he introduced the English Pansy—"those great, gaudy Pansies you see on the costers' barrows." John Salter, of Chrysanthemum fame, first took it in hand, as his tastes did not incline to the white-ground varieties. In the forties he went over to Versailles from Hammersmith and established a nursery there; but on the outbreak of the French Revolution of 1848 he withdrew to London. Andrew Henderson was another notable Pansy fancier, who sent to Wm. Dean's nursery at Shipley numbers of his seedlings, where they were grown better than they could have been at the raiser's own place. John Laing and John Downie must also be named in connection with Pansy evolution.

Then there came that tremendous interest in Chrysanthemum, which seems now to have about reached its highest. In 1846, Robert Fortune brought home the Chusan Daisy, from which the Pompons have sprung. In his second visit to China he secured a number of their newer and best types, and despatched these home. The vessel containing them was wrecked, but some seeds having been saved, these gave rise to stocks, from which our owners propagated.

The early stages in the rise to popularity of *Hippeastrums*, Dahlias, Gladiolus, Sweet Peas, Begonias, and Clematis were very briefly reviewed by Mr. Dean, but as he has recently written of these in his series of articles on "Certificated Plants," appearing in the *Journal*, it is not desirable to recapitulate.

Planting out Dahlias.

Dahlia roots can now be planted safely. We always get much better results from roots planted between May 15 and June 1 than from those planted earlier. Where it is possible it is much better to make at least two plantings. The soil is of little importance, as Dahlias, like Corn or Potatoes, will grow well anywhere if given sufficient nourishment and good culture. Of great importance, however, is the condition of the soil. My preference is a good heavy sod, with no manure except a little pure bonemeal. Too much manure has always been the chief source of failure in growing Dahlias, especially when planted early. If sod land is not available, any soil will answer, but it should be thoroughly prepared, and a light dressing of bonemeal applied. The objection to using land too rich is that the plants become overgrown and are soft, with the result of blasted buds and small or one-sided flowers. The chief object in Dahlia growing is to get fine flowers and lots of them. This we have always done by getting the bloom on small, well-grown plants, and when the plants are once blooming well we feed them heavily to produce the large, long-stemmed flowers.

Selection of varieties is very important, although not so much so as some years ago, because growers and dealers have become more interested, and consequently better educated in Dahlias. In ordering Dahlias from any reliable house, and asking for the best for any particular purpose, one is pretty sure to get what he wants. Roots that are wanted for later planting should be kept in a cool place sufficiently dry to keep them dormant. I would caution everyone against planting too closely. The rows should not be closer than 4ft, and if the soil is rich still farther apart. Eighteen inches to 2ft apart in the rows, according to variety, is plenty close, while 3ft to 4ft is required on heavy soil if specimen plants are wanted. By planting too closely, less flowers will be had than if planted the proper distance, and the quality will suffer also. Dahlia plants raised from cuttings will, in most cases, give equally as good results as roots, and in some cases much better. These can be set at any time after it is safe to plant out Tomatoes, and will require only the same good treatment necessary for all plants. It is best to divide large roots before planting, but, whether this is done or not, too many shoots should not be allowed to remain. For best results not more than two shoots should be allowed from each root, while one is better.—W. P. PEACOCK (in the "Florists' Exchange.")

Adiantum Capillus-Veneris var. *cornubiense*.

Of the five or six forms of *Adiantum Capillus-Veneris* none exceeds in beauty the remarkably elegant variety here illustrated (fig. a), which bears a nearer resemblance to that handsome Maidenhair Fern, *A. farleyense*, than any other hardy Fern. It was found near the cutting of the St. Ives (Cornwall) railway about 1874 by Mr. Trevithick, and named *A. Capillus-Veneris* var. *cornubiense* by J. Tyerman, Esq., of Tregony. At first it was supposed to be a two-year-old seedling of the typical species (the fertile and sterile pinnules of the species, *A. Capillus-Veneris*, being represented at b in the engraving) which is found at Tintagel, which, however, never produces fronds the same size the third year or afterwards as it does the second year, whereas this is constant to its size. Too much cannot be said in favour of this grand acquisition to our hardy Ferns. The pinnules are nearly palmate, very deeply cut, sometimes into twelve or thirteen segments, quite barren, therefore it can only be propagated by rhizomes. The stipes are 3in to 4in long. The finest specimen in Cornwall, and perhaps in England, was shown at the Penzance Exhibition, grown by Mr. George Maddern, gardener to E. Bolitho, Esq., Trewidden, which measured quite 3ft in diameter. It is of a drooping habit, and if grown in a pan will soon cover it all round. The specimen from which the accompanying engraving was prepared was given me by Mr. J. G. Mitchison, and Mr. F. W. Burbidge was kind enough to make a sketch of it. Another very desirable variety is *A. Capillus-Veneris* var. *magnificum* (Lee). The fronds of this useful and attractive Fern are much larger than those of the species, being from 12in to 15in long by 4in broad, and, like those of *cornubiense*, are gracefully curved; but the pinnules are not so deeply cut, as can be seen by fig. c. Another well-known form is *A. C.-V.* var. *daphnites*. This differs in a very remarkable degree from all other varieties; the pinnules of each of the branches are confluent (united), and the apex of the rachis dilated, spreading out the pinnules into a crest-like crispy mass. The stipes are ebony coloured. It is not very unlike *Adiantum Luddemanianum*. *A. Capillus-Veneris* var. *minus* is a very pretty form. The pinnules are not larger than the species, but much prettier, measuring sometimes 18in from the bottom of the stipe to the apex of the frond.—W. R.

Societies.

Royal Horticultural—Drill Hall, June 10th.

No more interesting exhibition, or one characterised by greater choiceness in the varied groups has been seen in the Drill Hall for some time than that of Tuesday last; and the visitors represented were of the best class of the gentry. The Orchid Committee had evidently almost exhausted the novelties at the Temple Show, as only two were honoured on this occasion. We were unable to obtain a list of the members who were present.

Orchid Committee.

Messrs. James Veitch and Sons, Limited, sent *Lælio-Cattleya Canhamiana*, *L.-C. Aphrodite alba*, *L.-C. Hippolyta*, and other hybrid Orchids. From Enfield Messrs. Low contributed a plant of *Cattleya Mossiæ Reineckiana*, with a large and beautiful flower: and other well flowered species were all exhibited.

Sir Trevor Lawrence, Bart., Burford, Dorking (grower, Mr. W. H. White), was strongly represented. One plant of the chastely beautiful *Cattleya Schröderæ* bore upwards of fifty very large and delicately scented flowers. A cultural recommendation was awarded. He also showed other choice Orchids, and a notably fine raceme of *Odontoglossum crispum Luciani* (F.C.C., March 23, 1897) the flowers of which were of grand form, much better than *Pittianum*, large and richly marked.

H. T. Pitt, Esq., Stamford Hill, contributed a group of Orchids, including a number of nicely flowered *Anguloa Clowesi*, *Miltonias*, *Dendrobium nobile album*, and *Odontoglossums*. His plant of *O. crispum Pittianum* was very much admired, and carried a six-flowered raceme.

Messrs. Stanley, Ashton, and Co., brought together a group comprising *Lælio-Cattleya Canhamiana alba*, *C. Mossiæ*, *Lælia purpurata Russelliana*, *Odontoglossum Adrianæ* (well flowered and strong), and a number of fine and handsome forms of *Odontoglossum crispum*.

Sir F. Wigan, Bart (grower, Mr. W. H. Young), Clare Lawn, East Sheen, had a fine exhibit of hybrid *Cattleyas* and *Lælias*, together with *Sobralias*, *Odontoglossums*, and his *Godfroyæ Cypripediums*. Messrs. B. S. Williams, Upper Holloway, sent, amongst other things, *Odontoglossum lutea purpurea* (well flowered), *Lælia tenebrosa*, and *Cœlogyne Massangeana*.

Fruit and Vegetable Committee.

Present: George Bunyard, Esq. (chairman), with Messrs. Henry Esling, J. W. Bates, H. J. Wright, George Kelf, H. Markham, W. Fyfe, G. Reynolds, James Smith, F. Q. Lane, A. H. Pearson, H. Balderson, and S. Mortimer.

Mr. J. Hodges (gardener, Mr. Fell le Pelley), Rusper Vineries, Fay Gate, brought forward a selection of market bunches of Grapes. Black Hamburgh and Gros Maroc varieties. Various improved forms of baskets were shown in which these were packed. A Silver Knightian Medal was awarded.

Leopold de Rothschild, Esq. (gardener, Mr. J. Hudson), staged twenty-eight fruits of the following:—Plums *Reine Claude de Comte Althann* (a much confused name); *Early Transparent Gage*, and *Jefferson*, all from trees in pots. His basket of highly coloured fruits of *Nectarine Lord Napier*, from a trained tree which bore 400 fruits, was greatly admired.

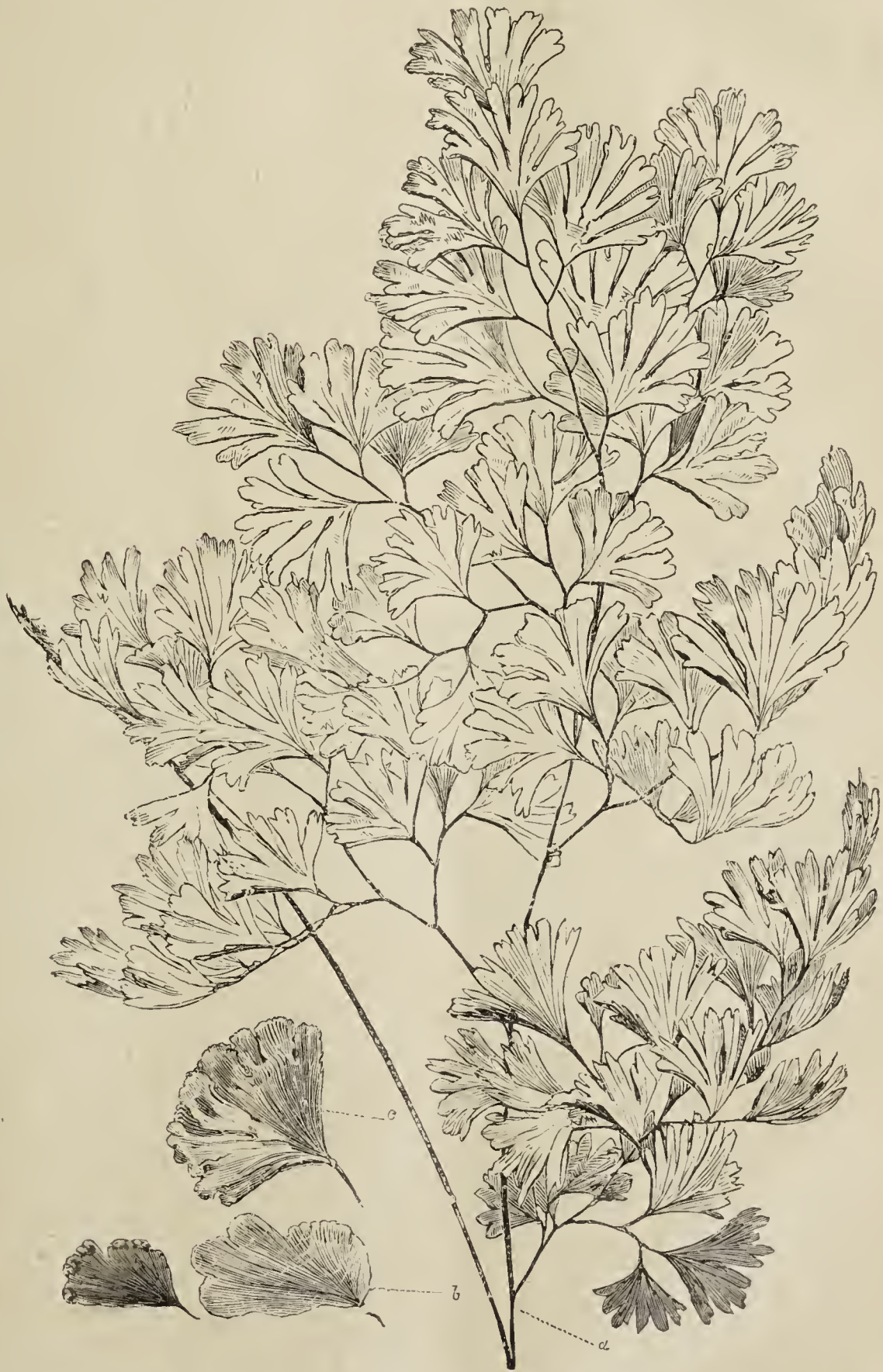
Floral Committee.

Present: William Marshall, Esq. (in the chair); with Messrs. Chas. T. Druery, Geo. Nicholson, R. Dean, J. F. McLeod, Chas. Dixon, R. W. Wallace, J. Jennings, Jas. Hudson, J. W. Barr, R. C. Notcutt, Wm. Howe, Chas. Jefferies, C. J. Salter, H. J. Jones, Charles E. Shea, E. H. Jenkins, George Gordon, F. Page Roberts, Wm. J. James, Chas. Blick, Geo. Paul, Ed. Mawley, and J. Fraser.

Messrs. T. S. Ware, Limited, Hale Farm Nurseries, Feltham, amassed a wealth of richly varied *Pyrethrums*, all of them doubles, and the following choice hardy plants:—*Æthionema grandiflora*, *Iris paradoxa* var., a purple form of *Hesperis matronalis* fl-pl., *Arctotis grandiflora*, *Saxifraga Macnabiana*,

Incarvillea Delavayi, *Arum Eggeri*, *Watsonia O'Brieni*, and *Ostrowskia magnifica*.

Messrs. Kelway, from Langport, brought together a display of single and double flowered *Pyrethrums*, and some good *Pæonies*. A selection of the double *Pyrethrums* would comprise *Wilson Barrett* (rose-mauve), *Queen Alexandra* (white), *Lord Rosebery* (deep crimson), and *Mme. Van Houtte* (rose-pink). The showiest singles were *Fairy* (purplish), *Lord Strathcona* (do.), *Mrs. Briggs* (rose-purple), *Princess Marie* (white), and *Maggie Kelly* (rose-purple).



Adiantum Capillus-Veneris cornubiense.

Messrs. Dobbie and Co., Rothesay, staged a number of vases of their new strain of long-spurred *Aquilegias* in a variety of pleasing colours. The flowers were of good size and substance, and foliage robust. The same firm also had three dozen named *Fancy Pansies* from their Orpington Nursery. These latter were very good examples of the flower.

Messrs. John Peed and Sons, Roupell Park Nurseries, Norwood Road, were represented by a collection of cut herbaceous flowers, in which *Pyrethrums* and *Irises* predominated. Other flowers included in the exhibit were *Phyteuma orbiculare*, *Thalictrum aquilegifolium*, varieties of *Geraniums*, *Gypsophila cerastioides*, and others.

Messrs. John Laing and Sons, Forest Hill, staged well grown Caladiums, of which Lymington, Flammant Rose, and Marquis of Camden were very fine. A mixed group of Crotons, Streptocarpus, Gloxinias were also included in the exhibit.

Percy R. Dunn, Esq., an amateur from Brockley Park, Forest Hill, sent about forty well grown plants of Calceolarias in a variety of colours. Being tastefully arranged with Adiantum cuneatum an effective and pretty group was secured, which created a good deal of interest, and considering that Mr. Dunn is his own grower, the effort deserves the highest encomiums.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, staged six plants of Spiraea Lord Salisbury in 5in and 6in pots. These were well grown and in fine condition.

Messrs. Wm. Cutbush and Son, Highgate, N., had a pleasing group of Eremuri, represented by spikes of good size in vases, arising from a bed of Pyrethrum Vivid; Carnations Maggie Hodgson (deep crimson), Her Grace, Lady Rose, Mrs. Gascoigne, Cecilia, and Lord Welby, were splendid examples of fine flowers and evidences of good culture. The group being deeply scalloped allowed of better examination than is usual, a point to be studied.

Messrs. Jas. Veitch and Sons, Limited, Chelsea, S.W., had on the opposite side of the door close upon one hundred spikes of Eremuri in varieties; a carpetting to this were Pæonies in variety. Amongst the varieties of Eremuri exhibited were E. robustus, E. Elwesianus, E. himalaicus, and E. Bungei (deep yellow). Also there were Eremurus Olgæ, a miniature form of E. robustus. Good quality was predominant. The exhibit attracted a great deal of attention.

Messrs. Barr and Sons, 12, King Street, Covent Garden, staged a bright and varied collection of herbaceous cut flowers, amongst which were some good Lupins in variety, double and single Pyrethrums, Geraniums, Papavers, Trollius, and Eremuri. All specimens were of good quality. The same firm also staged a collection of Japanese pigmy trees, and a collection of Irises, which was very varied.

Messrs. Hugh Low and Co., Bush Hill Park, London, N., were represented by a very pretty and tastefully arranged group of pot Carnations, Palms, and Hydrangea, and Adiantum. Amongst the Carnations specially worthy of note were Churchwarden, Calypso, Mrs. Martin Smith, and Lady Rose.

Messrs. Paul and Son, The Old Nurseries, Cheshunt, had a collection of Rhododendrons, chief amongst which were Duke and Duchess of York of some unnamed hybrids. The same firm also, in another part of the Hall, staged a collection of cut sprays of coloured shrubs. Amongst them were Diervillea President Ducharti, Fagus sylvatica tricolor, Quercus concordia, Kerria japonica grandiflora fl.-pl.; and many others, including a few new Lilacs.

Mr. Charles Turner, The Royal Nurseries, Slough, was represented by a choice collection of tree Carnations in 7in and 8in pots. Those calling for special notice were Duchess Consuelo, Manxman, Rizzio, Comet, Calypso, Persimmon, Much the Miller, Lady White, Sir Bevy's, and many others of great worth. This exhibit, which was tastefully arranged, richly deserved the award accorded.

Mr. Amos Perry, Winchmore Hill, N., was represented by a large and very varied collection of herbaceous flowers. Berberis vulgaris plena, Ostrowskia magnifica, Lychnis flos-cuculi rosea plena, Geums in variety, and Heuchera sanguinea Edge Hill variety, Linum luteum, Æthionema saxatile, with a few Water Lilies, were the chief subjects.

Mr. E. Potten, Cranbrook, Kent, had a small but pretty exhibit of herbaceous flowers, chief among which were single and double Pyrethrum, Diervillea Van Houttei and gigantiflora, Lupins, Lilacs, and Trollius. A healthy lot of well-grown flowers.

Mr. M. Prichard, Christchurch, Hants, had a large collection of herbaceous flowers, Pyrethrums and Papavers predominating. Pyrethrum Pericles and P. florentina were very pretty, and Lupins and Thalictrum, &c., were included. The same firm also staged a varied collection of Iris and a few Lilies.

Messrs. Cannell and Sons, Swanley, Kent, were responsible for a very large and choice exhibit of double Begonias, which were one and all in grand form. Dr. Nansen, a rich crimson, was very fine; Exquisite, pink, and very nice; Col. Plumer, Mrs. Lewis Castle, Lady Dundonald, A. G. Hubbuck, Lady Wolverton, and many others were grand flowers.

Messrs. Jas. Veitch and Sons, Chelsea, staged a group of Primula imperialis and a magnificent collection of floriferous and meritorious Gloxinias, very varied in colour. One hundred plants were staged, and nearly occupied one side of the whole centre table. The pretty trusses of Solanum Wendlandi formed a good background.

Messrs. Geo. Jackman and Son, Woking Nursery, Surrey, staged a collection of hardy plants in variety.

Messrs. J. Cheal and Sons, Crawley, staged a large collection of flowering and foliage shrubs, chief amongst which were Cytisus Andreanus, Cratægus coccineus plena, and other varieties, Azaleas in great variety, and Viburnum plicatum, Quercus purpurea, Corylus Avellana aurea, and other subjects.

Messrs. Hugh Low and Co., Bush Hill Park, exhibited two fine plants of Hydrangea of quite a blue tint.

Mr. Robert Grenfield, jun., Leamington Spa, exhibited a new form of Asparagus from South Africa. Martin R. Smith, Esq., Hayes, staged seedling Carnations.

Medals.

FLORAL COMMITTEE.—Gold Medal for group of Eremuri, Gloxinias, Pæonies, &c., to Messrs. J. Veitch and Sons, Chelsea; Silver-gilt Flora for group of Eremuri and Carnations to W. Cutbush and Son, Highgate, N.; Silver-gilt Banksian for group of Carnations to Mr. C. Turner, Slough; Silver Flora for hardy flowers to Messrs. Wallace and Co., Colchester; Silver Flora for herbaceous and Alpine flowers to Mr. M. Prichard, Christchurch; Silver Flora for hardy flowers to Messrs. T. S. Ware and Co., Limited, Feltham; Silver Flora for Begonias to Messrs. Cannell and Sons, Swanley; Silver Flora for hardy flowers to Mr. Amos Perry, Winchmore Hill, N.; Silver Flora for Pyrethrums and Pæonies to Kelway and Son; Silver Banksian for hardy flowers to Messrs. Barr and Sons, Covent Garden, W.C.; Bronze Flora for Calceolarias to Percy Dunn, Esq., Forest Hill.

FRUIT COMMITTEE.—Silver Knightian to Mr. J. Hodges, Rusper Vineries, Fay Gate, for Grapes; Silver Banksian to Leopold de Rothschild, Esq., Gunnersbury House, Acton, for Nectarines and Plums.

ORCHID COMMITTEE.—Silver-gilt Flora to H. T. Pitt, Esq., Stamford Hill, for group of Orchids; Silver Flora, to Sir F. Wigan, Bart., for group of Orchids; Silver Banksian to Messrs. Stanley, Ashton, for group of Orchids; Silver Banksian to Messrs. Jas. Veitch and Sons, Chelsea, for group of Orchids.

Certificates and Awards of Merit.

Begonia Exquisite (H. Cannell & Sons).—A sweet, rosy salmon coloured double tuberous variety of large size; splendid form (good centre) and fringed petals. Award of Merit.

Carnation Lady Hermione (M. R. Smith, Esq.).—Large-sized flowers, with broad smooth petals of a bright rosy salmon shade. The grass is broad, deep, glaucous and robust. Award of Merit. M. R. Smith (gardener, Mr. C. Blick), The Warren, Hayes, Kent.

Cattleya Warneri, Little's variety (H. Little, Esq.).—The petals are broad, heavy, and recurve beautifully. The lip is rich purple, this colour running into a point towards the throat. The top half edge of the lip is white; a fine variety. Award of Merit. H. Little, Esq., Barrows Holts, Twickenham.

Corydalis thalictrifolia (Jas. Veitch & Sons).—This is a Chinese species, very adaptable for pot culture. The racemes are 4 to 6 inches long, bearing soft yellow flowers, and the foliage is like that of a Thalictrum. First-Class Certificate.

Fagus sylvatica, var. aurea marginata (Paul & Son).—A beautiful Beech with leaves having a green centre and yellow margin. Award of Merit.

Fuchsia triphylla hybrida (Leopold de Rothschild, Esq., and J. Bennet-Poë, Esq.).—This seems a deeper flowered form than the type, with large pendent clusters of rich scarlet crimson, tubular flowers 2 inches long and narrow. Award of Merit.

Heuchera brizoides var. gracillima (Wallace & Co.).—An exceedingly light and graceful variety, with rosy red, tiny bead-like corollas, on long, slender branchlets. Award of Merit.

Iris germanica Sarpedon (G. Yeld, Esq.).—A magnificent flower with deep lavender-coloured standards and violet purple falls. The "beard" is rich orange. Award of Merit. Mr. G. Yeld, Clifton Cottage, Yorks.

Lælio-Cattleya × Mabel.—A hybrid between C. Trianae and L. grandis. The flower is large, with a long tubular lip, which opens well at the front, and is deep maroon-purple. The other segments are brownish-purple. Award of Merit.

Marguerite (Chrysanthemum frutescens) var. Coronation (Messrs. Ward Bros., Southgate).—This is described as a perpetual flowering Marguerite, with large, pure white, stellate ray petals, and yolk-of-egg coloured disc, whose outside flowers are white, and developed as in Anemone-flowered Chrysanthemums. Award of Merit.

Melon, President (R. Burrell, Esq.).—A cross between Royal Favourite and Westley Hall. A round fruit of moderate size, splendidly netted all over. The flesh is 2½ inches deep, green under the rind, and red beneath. It is sweet, very juicy, and melting. Award of merit. R. Burrell, Esq. (gardener, Mr. W. Ingram), Westley Hall, Bury St. Edmunds.

Tamworth Pansy Show, June 4th.

Despite the adverse financial position of this deservedly to be encouraged society, the committee resolved not to allow it, if possible, entirely to collapse, and so held a show on the 4th inst., in the grounds of Tamworth's historical Castle. Unfortunately, however, we fear that the wet state of the weather militated against the desired consummation. Neither was the display of Pansies and Violas so largely represented as upon several former occasions. But, despite the unfavourable past weather, the competition, though comparatively small, proved extremely keen, and many excellent blooms were staged. Much credit also

is due to the courteous hon. secretaries, Messrs. W. Morton and G. P. Fulcher, for the excellent arrangements.

The contestants in the "tug of war" for twenty-four sprays of Violas, dissimilar (six blooms in a spray) was confined to two competitors, hailing from the north and south of the Tweed, in the persons of, respectively, Mr. John Smellie, Busby, near Glasgow, and Mr. F. C. Brookes, gardener to Councillor W. Waters, Acock's Green, resulting in the coveted honours falling to the latter, in a very close run. The southern blooms were characterised more by their refinement and brightness than were the larger and, possibly, more substantial flowers from the north. The respective merits, however, were so far equal that "pointing" had to be resorted to by the judges. Mr. Brookes's collection was enhanced by an artistic arrangement of fronds of *Adiantum cuneatum* between the sprays, and serving also to hide the metal water tubes. His blooms comprised Lark, Colleen Bawn, Mrs. Waters, Formidable, King Cup, Mrs. Craik, Mrs. C. F. Gordon, Mrs. C. B. Douglas, Widgeon, Mary Robertson, Rolph, Lady Roberts, Dove, N. P. A. Smyth, Maggie Currie, Bethea, Nellie Currie, Jessy, Mary Stuart, Mrs. R. K. Mitchell, Acme, Lemon Queen, Stephen, and Maud. Mr. Smellie's complement consisted of Duke of Argyle, Lady Roberts, Dr. McFarlane, Isolde, Baden Powell, Lark, Mable, Illustrious, Nellie Currie, Maggie Thornley, Jessy, Bethea, two seedlings,



The late Wm. Bull, V.M.H., F.L.S.

Liz. Barron, S. Masters, Sir Visto, Mary Robertson, W. P. A. Smyth, J. E. Erskine, Cissy Mellows, Hawke, Duchess of Argyle, and Maggie Currie.

In the class for twelve dissimilar sprays of Violas (ten blooms in a spray), Mr. Brooker was again to the front, and Mr. Smellie a close second, both exhibitors staging varieties from the foregoing lists.

For forty-eight Fancy Pansies in at least twenty-four varieties (open), Mr. John Smellie and Mr. T. Nadin, Alvaston, near Derby—a well known cottager pansyist—were placed equal firsts with very fine blooms of the best varieties extant. For twenty-four Fancy Pansies, dissimilar, Mr. L. Nadin proved victorious with grand blooms of James Stewart, Miss Smith, Miss Nadin, R. C. Allen, Lilian, R. Stewart, Tom Waters, Rosie, D. G. McKay, Tamworth Yellow, Colonel Buchanan, Mrs. D. Johnstone, W. Shiel, Miss Neil, W. H. Clark, Maggie Watson, Neil McKay, Tom Nadin, Mrs. Nadin, John Mackie, and four seedlings; the second prize fell to Mr. John Smellie.

In the classes open to amateurs south of the Humber, for twenty-four varieties Fancy Pansies, dissimilar, Mr. Tom Nadin scored with fine examples of Tom Nadin, D. G. Johnston, W. H. Clark, R. C. Allen, and others; Mr. W. B. Fowler, of Freasley, was second with good examples of David Rennie, Colonel Buchanan, Miss Watson, W. P. A. Smyth, Baillie Shaghenessy, William Watson, Kate Dorn, Mary Travis, Tamworth Yellow, Mr. R. G. Moir, Robert White, Ivanhoe, Miss Neil, Mavourneen, Mysie Paul, D. Russell, Robert Allan, Maggie Bell, Jessie Murray, W. H. Clark, a seedling, and others. For

twelve varieties, dissimilar, Mr. T. Nadin and Mr. W. B. Fowler were placed first and second as in order named with varieties as in the foregoing lists. For six varieties Mr. Nadin was the only exhibitor, staging fine blooms of R. Stewart, Wm. Watson, G. Stewart, W. H. Clark, Tamworth Yellow, and Miss Neil. For six blooms of one variety Mr. Nadin was the only exhibitor, with a fine stand of Tom Nadin. In the two classes for sprays of Violas there was no competition.

In the classes open to amateurs residing within twelve miles of Tamworth Town Hall, for twelve Fancy Pansies, dissimilar, Mr. Fowler, of Freasley, staged fine blooms of Lord Roberts, W. P. A. Smyth, Mr. W. Watson, Colonel Buchanan, Ivanhoe, W. R. Neil, Mr. R. G. Moir, Tamworth Yellow, Kathleen, Stirling, David Rennie, Mary Travis, and Mrs. Jewry; the second prize fell to Mr. T. Wood, of Glascote. For six varieties Mr. T. Wood won, and second Mr. Fowler. There were classes for cottagers residing within five miles of Tamworth Town Hall.

Prizes were offered for twelve seedling Fancy Pansies, Mr. John Smellie and Mr. T. Nadin being the respective winners. For twelve Fancy Pansies in the section open to all, Mr. John Smellie was the only exhibitor. His collection consisted of Henry Stirling, Mrs. Moir, Mr. B. Welbourne, White Marmion, Miss Neil, Mr. Whitelaw, W. H. Clark, Colonel Buchanan, Lord Roberts, Mavourneen, Jessie H. McNeil, and a seedling. Prizes were offered for a central table of Violas only suitable for a dinner table, for which there was only one exhibitor, Mr. W. Hutchinson, Tamworth, with an effective arrangement.

There was a numerous response to the offer of the prizes for wild flower decorations in the shape of vases or epergnes, forming quite a feature in the show. The epergnes were too heavily dressed, and the judges selected a bowl each of elegant wild flowers most tastefully arranged. The first prize (a neat gold brooch) was adjudged to Nellie Lathbury, aged eight years, daughter of Tamworth Castle lodge-keeper. A honorary award was given to Mr. W. Sydenham for one of his well known artistically effective exhibits of Violas in epergnes and sprays, thus forcibly portraying the decorative attributes of the Violas. A special award was also given to Mr. E. Pitt, Acock's Green, for a beautiful and elegant arrangement of Sweet Peas in vases.—W. G.

Obituary.

The late William Bull, V.M.H., F.L.S.

On page 491 of our last issue we furnished a brief biographical sketch of the late respected Chelsea nurseryman, and the above portrait shows him as he was very shortly before his decease. The business will be continued as usual in the King's Road by his sons, Mr. William and Mr. Edward Bull.

Charles H. Downie.

C. H. Downie, who had charge of the Grass and Clover seed department of Peter Henderson and Co., New York, died on May 19, after only a fortnight's illness. He was thirty-seven years of age, and a native of Scotland. We understand he was formerly connected with the firm of Downie, Laird, and Laing, of Edinburgh, now conducted under the title of John Downie.

H. H. Hunnewell.

H. H. Hunnewell, proprietor of the beautiful gardens at Wellesley, Mass., died on Tuesday, May 20, at the ripe age of ninety-two years. Mr. Hunnewell was born (says "The American Florist") in Watertown, Mass. At the age of twenty-five he became a partner in the Paris banking house of Welles and Co., where he resided for some fifteen years, returning to America to establish the firm of H. H. Hunnewell and Sons, since which time he has been a prominent factor in the financial and horticultural progress of Boston, although one of the most unassuming of men. He was a man of scholarly and literary tastes, fond of outdoor life and horticultural pursuits, generous, charitable, and always public-spirited. He was an active member of the Massachusetts Horticultural Society for about fifty years, and during most of that period served the society in various official capacities. He retired from active duty as an officer of this organisation in December, 1900. The beautiful estate at Wellesley is the most famed private place in America, and no visit to Boston from distant places has been considered complete without a trip to that lovely spot. Its charms were the joint product of Mr. Hunnewell and his talented gardener, F. L. Harris, who also not long since found it necessary to lay down the cares of active work because of growing infirmities. In 1890, when the Society of American Florists visited Boston, one of the most delightful events of that occasion was an afternoon spent as the guests of Mr. Hunnewell at Wellesley, viewing the wonderful Italian garden and enjoying the manifold charms of sylvan scenery and landscape effect with which the place abounds. The immediate cause of Mr. Hunnewell's death was heart disease, but he has been feeble ever since an attack of pneumonia which he had about a year and a half ago. Up to that time he enjoyed uninterrupted good health.

THE BEE-KEEPER.

Spreading Brood.

Of all questions of practical utility and interest which from time to time come up for discussion, that of spreading brood is the most regular in its appearance. Its merits and demerits have always been moot points. In spring it is a decidedly useful operation if carefully and judiciously performed, but it not infrequently happens that, from want of sufficient knowledge of their habits, and not making allowances for varying temperatures, the brood nest is extended beyond the space the bees can at all times comfortably cover. Any fall in temperature causes a cluster of bees to contract, and if cold, unfavourable weather follows the operation of spreading, they leave the brood on the outside combs, which causes it to chill, and instead of assisting the colony checks it. With a little forethought and observation, however, this pitfall may be avoided. On examining a hive in the early part of the year, where the bars are end on to the entrance (not parallel to the hive front), it will be found that the brood-nest is at the front, and the honey at the back of the combs. This is due to the instinct of the bees prompting them to store the honey where it is almost impossible for robbers to obtain it. The pillagers would not only have to pass the sentinels at the entrance, but also all the bees on the thickly covered combs.

If, therefore, advantage is taken of this instinct to alter the position of the stores by turning a bar rear end foremost, the first thing they would do would be to re-arrange them in exactly the same position if possible, by uncapping and placing the honey in any vacant cells at the back, or close around the brood. No more effective stimulation can be given than by causing them to transfer their stores to another portion of the hive; it is equal to a honey flow for stimulation, and there is the further advantage that instead of the brood nest being in small patches on many combs, it is extended over the whole of the central bars, and is therefore more compact. Closer examination of the centre of the hive will reveal hatching brood; in a circle around this, larvæ, and still further away from the larvæ, eggs. When the eggs are laid outside the globular brood nest any additional room should be given next to the outside bar of brood. In spreading, place the new combs where in the ordinary course of events the queen will lay next, and if disorder is always guarded against there is very little danger of chilled brood. Extra comb in the wrong position is at times not used by the queen at all, but filled with honey by the bees. There is practically no risk of chilled brood in spreading a strong stock, but the inexperienced bee-keeper naturally endeavours to have every colony powerful before the main honey flow, and unfortunately operates upon the weak ones.

Should the stock be a strong one, the stores may be displaced by turning one or two bars with brood in them back to front, or giving the body-box a half rotation, and the brood is then spread without risk. The bees will inevitably remove the honey from the front, and replace it around the larvæ, and as the cells are emptied the queen will fill them with eggs. The body-box may be turned with bars end on to the entrance again in a few weeks. To assist a weak stock, a reliable method is to first space the bars $1\frac{1}{4}$ in from centre to centre. By this means a stock which originally covered six bars would be reduced to $7\frac{1}{4}$ in instead of 9 in. This will enable the bees to cover another bar with ease, at the same time increase the capacity of the brood nest, and no more heat is required for the addition. A colony covering less than six bars must not be spread on any account. It may be assisted by tightly dummieing and feeding slowly, and when sufficient bees have hatched to cluster against the dummy, and the last bar of brood is sealed (the one on the outside being the one containing pollen), another may with safety be placed between it and the brood, which they will, no doubt, commence drawing out. Immediately this is found to be the case, it may be inserted in the centre.

The best time for carrying out these operations is when brood is being rapidly raised in the latter part of spring; when there is a probability of warm nights, and when the birth rate is well in excess of the death rate. In spreading brood there is a danger over which we have no control to contend with—differences in temperature—and in order to guard against this, no more bars must be provided than the bees cover, and the heat of the colony always conserved by additional quilts and packing. By covering it must not be inferred that the outside combs are covered when there are only a few scattered bees on them. Besides covering all the bars containing brood thickly from top to bottom, there should be sufficient bees to cover one bar on each side containing honey and pollen. When not less than four combs are well filled with hatching bees, larvæ, &c., and the bees observed removing the syrup from the outside combs for the queen to lay eggs in the cells, another comb may with perfect safety be placed in the centre of the hive to increase its capacity. After an interval of a week or more, according to the number of bees hatching, this

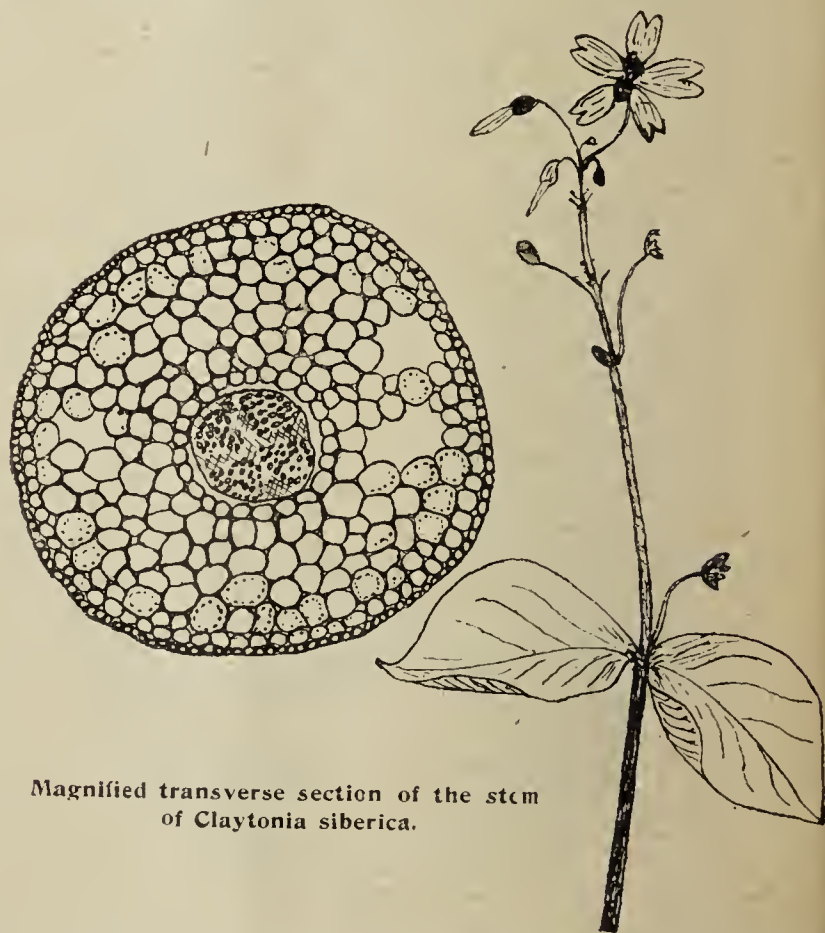
gradual spreading may be repeated, the dummy being pushed back to allow the insertion of a drawn out comb or frame of foundation.—E. E., Sandbach.

VI.—Botany in the Garden.

(Continued from page 486.)

Branches may be modified into phylloclades, spines, or tendrils. Phylloclades are branches having the appearance of and performing the functions of leaves. They occur in Cacti and allied genera. Spines are short pointed branches sometimes bearing leaves. They differ from prickles in being continuous with the wood of the stem. They occur in wild Plum, Crab, &c. Tendrils are often modifications of parts of leaves, and enable the plant which bears them to climb. But they may be true branches, springing from the axils of leaves, as in the Grape Vine.

The chief kinds of underground stem are the rhizome, corm, tuber, and bulb. The rhizome is a stem of numerous internodes with buds and roots at the nodes. It may be thick and fleshy, as in the Iris, or long and slender, as in Couchgrass. The corm is a short, thick stem, with numerous buds on its upper surface, and roots below. It generally consists of one internode only, as in the Crocus, Snowdrop, and Gladiolus. The tuber is an enlarged stem of many internodes with buds scattered irregularly on its surface, as in the Potato.



Magnified transverse section of the stem of *Claytonia siberica*.

The bulb resembles a corm in outward appearance, and consists of a short stem, which bears roots below and overlapping scales above. These are usually fleshy, and form the bulk of the bulb. They are variously arranged in different species. If they form complete sheaths, as in the Onion, the bulb is termed tunicate. If narrower, and overlapping, as in the Madonna Lily (*L. candidum*) it is squamose. Bulbs increase by forming buds in the axils of the scales, which, when detached, root and form independent plants.

Bulbs may be annual, as the Tulip, flowering from its terminal bud the first season; biennial as the Crown Imperial, flowering from the terminal bud the second season; or perennial, as the Hyacinth, flowering from axillary buds only.—Wm. R. R.

(To be continued.)

In reference to the above cut, the plant shown is *Claytonia siberica*, natural size. It is a pretty little perennial, having rosy-mauve or purplish flowers at the apex of soft, succulent stems bearing opposite, sessile leaves. The stems are round, smooth, and brownish red. On the left of the plant a magnified transverse section of the stem is shown. This was prepared in order to accompany the notes on the stem and branches of plants, by "Wm. R. R.," given in last week's issue, and also in the present notes, above here. The small cells on the edge form the epidermis, and contain the red coloured corpuscles. Some of the larger inner cells contain chlorophyll corpuscles, which are necessary to growth, and which are found to be arranged close to the inner walls of the cells. Here and there may be observed the intercellular or "air" spaces—vacuums, generally caused by the fast growth of these moist-loving plants. Centralmost we find

four fibro-vascular bundles with interfascicular phloëm, forming a tough, wiry, supporting fibre which can be extracted separately from the surrounding cellular tissue or cortex. It is by the outward growth and coalescence of these bundles, that the heart-wood of trees is formed.—J. H. D.

Outdoor Vines.

The growth of Vines on open walls is pushing freely, and a considerable amount of disbudding must be practised or the shoots will eventually be too thickly crowded together, with results that are not satisfactory. Usually several shoots push from one spur; the best of these which are fruitful must be selected, and the others either rubbed off by the process of disbudding, or cut off when they have extended long and strong. Remove the surplus shoots close to the old rod. One fruitful shoot to a spur is sufficient. In some cases two shoots may be reserved, but one only should be allowed to carry a bunch. Secure the shoots in position as early as possible, so as to prevent breakage by wind. Almost immediately after this the growths will require stopping, doing this at two eyes beyond the bunches.

Where growths are wanted to fill in bare spaces, train in some special shoots for this purpose, and allow them more freedom of growth. The lateral growths which push after the stopping should be pinched at the first leaf. With careful attention to this the wood and foliage will not become crowded. Two bunches on a spur or shoot must not be retained. If not reduced at first, do so as soon as it can be seen which are the best. An occasional syringing on warm days will largely assist in keeping the foliage clean. An adequate amount of water should be afforded the roots.—E. D.

Young Gardeners' Domain.

Cordon Melons.

Sow the seed singly in 3in pots, filled with good loam. Put in double the quantity that will be needed, and select the strongest seedlings, the object being to start with vigorous plants free from all insects. Place the pots in a frame or house having a bottom temperature of about 75deg. After the plants are up, expose them to light and sun, allowing no checks to their growth. When rooted nicely, shift into 6in pots, using loam, a little soot, and a pinch of bonemeal. Keep a night temperature not below 65deg Fahr. by day, rising to 80deg and 85deg, and shut up the house so soon as it can be safely done. The plants must be put in their final pots before they become root-bound. This time the soil is important, and should consist of sound turfy loam, and to every barrowload of this add a 4in pot of bonemeal, a 6in pot of coal soot, and a little mortar rubble. Use 12in or 14in pots, and give a sprinkling of 4in bones on top of crocks.

Warm the soil before using it by heated bricks or otherwise, and if it can be thoroughly baked, much trouble may be saved from soil pests. Have the compost on the dry side, and pot very firmly. Light span houses are most suitable to grow the plants in, and if the pots can be placed fairly close to the hot water pipes no other bottom heat will be required. Let the plants run up their allotted length before stopping, but keep useless laterals pinched out. Once the leader is checked, laterals will be thrown freely, and it is on these the fruit will show. When two female blooms open simultaneously on the same plant, fertilise them, and the ovaries will swell evenly. Two fruits to each plant are generally sufficient. The plants should stand about 2ft apart. Pinch the laterals two leaves beyond the fruit. After the Melons are swelling, a little lateral growth helps to keep the plants healthy; but a thicket must not be allowed. Syringe every leaf thoroughly, weather permitting, and keep the house well damped down. Red spider may thus be kept at bay until the fruit is far advanced.

When the fruit are developing, feeding will be required, when it is best to start gradually with weak liquid manure and soot water. As they get accustomed to this, give a dose of guano or some approved chemical twice a week. If a good top-dressing is allowed, it will not be necessary to feed so much for a time. Rub in lime and fine charcoal, if the stems become affected. The fruits will need support, and a net, or small piece of suspended wood will answer the purpose. The temperature should now be 70deg at night, and about 85deg by day from sun heat. When the Melons show signs of ripening all manure water must be stopped, and more air given, and a drier atmosphere maintained. At this stage some of the fruits may be inclined to crack; such fruit should have the stem cut about half through, and the plants be carefully watered. Growing Melons as cordons will be found interesting, and they have the advantage of being completely under the control of the cultivator.—W. F., Journeyman.



Hardy Fruit Garden.

YOUNG FRUIT TREES.—The growths now being made by young specimens planted in autumn ought now to be vigorous and free. In this case some regulation will be required in order to equally balance the branches. Retain as many as possible of equal strength, and all well placed, as by this means only can well shaped trees be formed. Trees growing somewhat weakly may need a little extra food in the soil to give them a start. Weak liquid manure will give the necessary impetus, and frequent syringing will assist.

STRAWBERRIES.—The laying down of mulching material for the purpose of keeping the fruit clean must not be longer delayed. The early varieties are setting and swelling fruit, while others are in flower and commencing to open their blooms. In light dry soils the liberal mulching afforded may be supplemented by giving the plants frequent applications of liquid manure during the time the fruits are swelling. Previous to the fruit beginning to colour, endeavour to remove as many weeds as possible, especially any of a deep rooting character, which will, if left alone, make rapid headway during the summer, for it is more difficult to deal with weeds after the fruit commences ripening and the beds are netted over.

RASPBERRIES.—Young suckers springing from the stools must be reduced in number, retaining the strongest to form the future bearing canes. The outside suckers are the best for planting canes, and if some are wanted in autumn, leave a sufficient number. Clear off weeds and give a heavy mulching of manure round the stools, which will serve to retain moisture in the soil during the fruiting period.—EAST KENT.

Fruit Forcing.

CUCUMBERS.—In houses fire heat will only be necessary to prevent the temperature falling below 60deg or 65deg at night and to insure 70deg to 75deg by day, advancing with sun heat to 85deg or 90deg. Attend well to stopping the shoots, removing bad leaves, well thinning the old growths, and watering with weak liquid manure about twice a week. To encourage surface roots sprinkle the bed with sweetened horse droppings once a week and occasionally with a little soot and some approved fertiliser, both of which will supply nourishment, and give off some ammonia vapour beneficial to the foliage.

UTILISING EMPTY STRUCTURES.—Houses cleared of Vines in pots, Strawberries, or bedding plants, may be usefully devoted to Cucumbers. They can be grown well in boxes of 12in to 15in depth and 18in to 24in square, placed on the staging. No fire heat will be necessary, the house being closed at 3 to 4 p.m. or earlier, according to the sun being clear or overcast, syringing then, the floors and other surfaces being kept damp, so as to secure a good moisture through the day, but do not syringe in the morning, this often being a cause of great mischief to the foliage. Admit air at 75deg, and allow the temperature to rise to 85deg or 90deg with sun, and close between 80deg and 85deg, and if the temperature rise to 90deg, 95deg, or 100deg all the better. Train with a single stem to the trellis, rubbing off all laterals to that height, then allow to grow. Pinch the leader after it has grown two-thirds across the trellis. The laterals must be stopped one or two joints beyond the show of fruit. A wood or other trellis may be improvised at 15in from the glass.

PITS AND FRAMES.—Water the plants about 4 p.m., as required, lightly bedewing the foliage, closing then or earlier, according to the weather, but it is not safe to close early, so as to raise the temperature above 90deg or 95deg. Liquid manure should be given occasionally, but not over the foliage, and not applying it too often. Keep the growths fairly thin, thinning out old shoots and encouraging young growths in their place, so as to keep up a succession of bearing wood. Stop one or two joints beyond the show for fruit. Avoid crowding, also over-cropping, and do not allow the fruit to remain on the plants after it is fit for use a day longer than can be helped.

GRAPES SCALDING.—Muscat of Alexandria and Lady Downe's are most liable to "scald," but other varieties, even Hamburghs, sometimes suffer severely when completing the stoning process. At that time air should be given abundantly, sufficient warmth being kept in the hot water pipes to maintain a night temperature of 65deg to 70deg, and 70deg to 75deg in the daytime, leaving ventilation on at night, and increase it before the sun acts powerfully upon the house in the morning. This attended to, there will be little if any scalding, for it is

keeping close, moist, and cold that renders Grapes liable to scald if the weather prove bright.

GRAPES RIPENING.—Afford these a circulation of air on all favourable occasions, with enough ventilation constantly to insure a change of air, as it is a confined, stagnant atmosphere that does all the mischief in Grapes "spotting" and cracking. Keep sufficient heat in the hot-water pipes to maintain a night temperature of 65deg, and 70deg to 75deg by day, with 80deg to 90deg from sun heat through the day. Avoid a very dry atmosphere, damping occasionally, and do not allow the border to become dry. Moderate lateral growth will favour Hamburgs and Madresfield Court, but Muscat of Alexandria colours best when exposed to the light, yet a little lateral growth is desirable as a safeguard against shanking, and for the maintenance of healthy root action.

VINES CLEARED OF THEIR CROPS.—Syringe the Vines occasionally to keep the foliage clean, afford water to keep the soil moist, supply a top-dressing of chemical manure occasionally, and of a phosphatic and potassic rather than nitrogenous nature, with a light mulching to keep the soil from cracking, as well as to prevent the roots going down in search of moisture. Allow a moderate extension of the laterals, but not permitting them to interfere with the principal leaves. Some lateral extension is absolutely necessary to prevent the starting of the main buds and the premature ripening of the foliage. There is no fear of the wood not ripening, the difficulty is in the opposite direction, that of loss of foliage and starting into growth instead of going to rest in late summer. Ventilate freely when the temperature rises above 60deg.—ST. ALBANS.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick, height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil, At 9 A.M.			Lowest Temperature on Grass
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1902.										
June.										
Sunday ... 1	S.E.	deg. 67.9	deg. 61.3	deg. 73.2	deg. 58.7	Ins. 0.08	deg. 59.8	deg. 55.5	deg. 51.5	deg. 55.8
Monday ... 2	S.S.W.	56.7	53.2	69.2	50.6	0.53	60.2	56.5	51.9	47.7
Tuesday ... 3	E.S.E.	57.1	55.2	75.2	51.7	0.20	60.0	56.9	52.2	43.5
Wednesday ... 4	W.S.W.	56.9	55.0	62.4	54.5	0.06	61.0	57.2	52.4	50.7
Thursday ... 5	W.S.W.	58.7	53.9	64.4	52.5	—	59.7	57.2	52.8	50.2
Friday ... 6	S.W.	55.4	52.2	58.2	50.0	0.48	59.3	57.2	53.1	44.9
Saturday ... 7	W.S.W.	55.5	46.8	58.6	47.8	0.14	58.1	56.8	53.2	42.6
MEANS ...		58.3	53.9	65.9	52.3	Total. 1.49	59.7	56.8	52.4	47.9

A week of dull showery weather, with a thunderstorm on the 7th inst.

Publications Received.

"Garten Flora," June 1, contains a coloured plate of *Rhododendron Griffithianum* x *arboreum hybridum*, a very handsome flower. * * "Revue Bibliographique Sciences Naturelles, pures et appliquées," 1st year, No. 2, May, 1902. * * "Tropical Agriculturist," May, 1902. * * "Cassell's Dictionary of Gardening," part 13, price 7d. net. This issue starts at *Myginda* and ends with *Ormosia*, being well illustrated throughout, and contains a coloured frontispiece of *Chrysanthemums*. A useful article on Oak galls is included. * * "The Nature-Study Journal," Wye, Kent, No. 3, containing short articles on An Hour with the Balance, The Metamorphosis of Frogs, A Glance at a Beehive, Flower Shapes, &c. Price 3d. * * "Journal of the Department of Western Australia," April, 1902. Contents: Indian Oranges; A Beneficial Insect; The Season's Fruit Crop; The Fight against Scale; Insectivorous Birds of Western Australia; Marram Grass for Reclaiming Drifting Sands; &c., &c. * * "The Canadian Horticulturist." Special features: The Gravenstein Apple; Our Fruit Industries; Grafting; Thos. Meehan, Philadelphia; Observations on Buds; The Quarter-Acre Strawberry Patch. * * "The Australian Colony of Victoria." * * "Le Jardin," June 5, coloured plate of *Cineraria* "hybrida multiflora."



* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

DO BULBS REST? (Y. B. A. Z.)—Your communication will be inserted next week.

FLIES FOR IDENTIFICATION (M. L. G.)—The flies belong to the Empidæ section of dipterous or two-winged flies, and are *Empis tessellata*. Very little is known of the larval condition of these insects, but they are regarded as harmless, and as feeding on vegetable matter partly if not wholly in a state of decay. The perfect flies are exceedingly voracious, chasing other insects in the air, or picking them off their perches with wonderful assiduity and skill. Their legs are long, and formed so as to clasp the prey in their embrace, and when an unfortunate victim is once seized, it never escapes. The long legs close tightly round the body, binding together legs and wings so as to prevent all struggling, and the sharp beak with which the mouth is armed is thrust deeply into the body. The *Empis* fly seizes insects of various kinds, but is specially useful to the gardener, because it is so fond of the leaf-roller moths, not a few of which are partial to Apple trees, and the *Empis* flies are often very plentiful about the trees in the late spring or early summer months. The gardener does well to protect these useful flies by all possible means.

HEDGE TWIGS INFESTED (J. T.)—The twigs are infested with the caterpillars of the small ermine moth, *Hyponomeuta padellus*, which live together in large companies, spinning webs and feeding on the leaves, then passing to other parts until, in severe attacks, the hedge or tree infested is stripped of its foliage, and left hung over with a kind of sheeting of the dirty ragged remains of their webs. The best remedy is, in the early stages of attack, to boldly take the web nest in both hands and crush the caterpillars, protecting the hands, in the case of a Thorn hedge, with strong gloves. Another plan, and very successful, is to cut off into a pail, smeared inside with gas tar or well coated with paraffin oil, the web nests full of caterpillars. This is not very easy in the case of the ragged webs, and small parties of caterpillars being widely distributed, therefore it is good practice to forcibly syringe the web nests with a solution of softsoap and paraffin oil, 1½lb of softsoap being dissolved by boiling in a gallon of water, and when removed from the fire, add ½ pint of paraffin oil and stir briskly until thoroughly amalgamated, then dilute to 5 gallons with hot water, and apply at a temperature of 130deg to 135deg. Forcibly ejected into the web nests, so as to break them up and reach the caterpillars, the effect is good. It hardly answers in the case of hedges to apply poisonous substances, on account of cattle, and is not necessary, only attend to the forewarned repressive measures.

ASH TREE INFESTED (F. L.)—The "grub" in the pieces of Ash, or rather main shoot of a young tree, is the caterpillar of the wood leopard moth, *Zeuzera æsculi*, which feeds on the live wood of many kinds of trees, being found in Ash, Beech, Birch, Elm, Holly, Lime, Oak, and others, besides Horse Chestnut, from which the moth takes its specific name, though not appropriately, as it rarely attacks this tree. The caterpillar, however, is most commonly found in Apple tree branches and in those of the Pear, though sometimes in Plum and Walnut trees. As regards prevention, there does not appear any, beyond capturing the moths, which appear at the end of June and up to the end of August, being most common at the end of July or beginning of August. The moths are very partial to artificial light, and may be captured on boards or tables on which a hurricane lamp is placed and lighted at dusk, the board being smeared with a sticky substance, such as cart grease or myocum fly gum, renewing this as required. The caterpillars may be destroyed in their burrows by running a strong wire into the hole, and thus crushing the caterpillar within to death. If the wire, when withdrawn, is found to have wet whitish matter on it, such as would result from having crushed the larva, or, again, if gnawed wood is not afterwards passed out of the burrow, it may be supposed the creature is killed. We have, however, found that opening the burrow and passing into it a piece of cyanide of potassium about the size of a pea, then plugging the hole tightly with wood, and cutting off level with the bark, is a good remedy. The cyanide of potassium is a terrible poison, and due caution must be exercised.

ST. JOSEPH STRAWBERRY TO FRUIT LATE (Ignoramus).

The best way to secure fruit late in the season is to remove the first trusses of bloom and all runners, and this will concentrate the forces of the plants on new growths, and these will form buds and throw up the trusses of bloom in late summer, fruiting in September and October if the weather prove favourable. The plants, however, fruit naturally and in succession from June to October, if planted on a north border the produce will be relatively late, and continued up to frost. If you require the plants in pots and a late supply of fruit, small runners should be potted up in autumn, kept in these until spring, and then shifted into the fruiting pots, and growing outdoors as for Strawberries intended for forcing, keeping off all runners and all trusses of bloom up to July, so that all strength is thrown to make late growth, and by so doing large quantities of fruit will be produced late in the season, and being in pots the plants can be removed to frames, or, preferably, shelved in a freely ventilated house with a temperature of 50deg. If you have any plants in pots remove the first trusses and keep off all runners, and they will fruit late in summer, it not being necessary to repot the plants, they being in 5in or 6in pots, but feed liberally with liquid manure and keep the foliage free from insect pests, particularly red spider.

NAMES OF PLANTS.—*Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number.* (F. M.).—Blue flower is *Muscari comosum monstrosum*, very fine; yellow, *Lycaste aromatica*. (F. Jackson).—1, *Weigela* (or *Diervillea*, as the genus is now named) *rosea*; 2, *Ornithogalum umbellatum*; 3, *Pulmonaria officinalis*; 4, *Thalictrum aquilegifolium*; 5, *Corydalis lutea*. (Roxburgh).—1, *Saxifraga hypnoides*; 2, *Trientalis europæa*; 3, *Streptosolon Jamesoni*; 4, *Reidia glaucescens*; 5, *Posoqueria longifolia*; 6, *Magnolia tripetala*. (B. B.).—1, *Thermopsis montana*; 2, *Ornithogalum argutatum*; 3, *Diervillea Eva Rathki*, which is comparatively little known yet; 4, *Viburnum Opulus*; 5, *Muscari comosum monstrosum*; 6, *Ceanothus papillosus*. (J. B.).—1, *Hyacinthus amethystinus*; 2, *Epimedium rubrum luteum*; 3, *E. macranthum versicolor*; 4, *Polygonum cuspidatum*; 5, *Menyanthes trifoliata*, the Bog Bean; 6, *Phalaris arundinaria variegata*. (A. W.).—1, The variegated Ground Ivy, *Nepeta Gleehoma variegata*; 2, *Begonia glaucophylla*; 3, *Dicentra eximia*.

COMMUNICATIONS RECEIVED.—H. H. R., J. M. Sinclair, Richardson and Co., A. W. S., J. D., W. S., L. H. Bailey, W. G. (Phalæopsis photograph will be considered), B. Ashton, John K. King, Gartons, Limited; E. E., A. O'Neill, R. P. R., J. McC., F. W. J. (will try to assist), H. D., A. W. C., "Knowledge," W. Marriott, J. W. Bentley (Agreed! Next week); W. H. and Son, Sutton and Sons, J. Kingsmill.

Nature Notes.

I noticed a few days ago an old stub Hawthorn bearing flowers, both red, white, and some flushed pink, on the same twigs, even some on the same corymbs. It was quite a novelty, for one corymb would be red and the next white. How is it accountable?

I have known the old stub for several years, but have never before seen the peculiarity, although it may have existed.—H. R.

Bees fail to swarm. Although the present hot weather may help them out, they will be very late.

The warmer weather has brought about almost a plague of queen wasps.

Swifts are more numerous this year about here, which is something of note, for they as a rule are practically scarce.—H. R., Kent, June 4.

Trade Notes.

We are asked to announce the election of Mr. E. Kemp Toogood as a Fellow of the Linnean Society.

The whole of the Grass seeds required for sowing the Royal parks of London this year have been supplied by Messrs. John K. King and Sons, Coggeshall, Essex, and Reading, by order of His Majesty's First Commissioner of Works, an honour also conferred on the firm in 1897, 1898, 1899, and 1901. A daily paper, recently referring to the condition of the turf in the Royal parks, stated that "the parks looked their best, the verdure having reached its most beautiful green;" which is testimony to the excellence of the seeds supplied.

Messrs. J. Weeks and Co., Limited, horticultural builders and hot water apparatus manufacturers, &c., 124, King's Road, and 48, Fernshaw Road, Chelsea, S.W., inform us that they will be engaged immediately in providing heating arrangements for the east galleries of the Victoria and Albert Museum, South Kensington, S.W., and also for warming the new seed warehouse of Messrs. J. Veitch and Sons, Limited, Chelsea.

**A Few Poultry Notes.**

We have not been to Madrid, either to see the King assume his Royal dignities, nor to see the bullfight, and not even to see the big poultry show. Madrid seems too far away for us islanders; but we had as representative there even Mr. Ed. Brown, who may take rank as our greatest poultry expert; and there was an English lady exhibitor (Hon. Florence Amherst), whose sister, we believe, is the pleasant writer on gardens. This show has been much on the lines of the great Congress at St. Petersburg three years ago. The Government is awakening to the fact that after all there is something to be made out of poultry, and the show is part of pageant attendant on the Coronation festivities. The King is honorary president, and the show is organised under the auspices of the Queen Regent. Breeding fowls were on exhibition from May 1 to 12. That seems to us a very long time to be away from home and exposed to all the risks of public life. The show is in the open air, and in some cases houses and runs are provided; but still this only lessens the risk—does not do away with it.

Although there are many English breeds and English-bred fowls there, the only English exhibitor is the lady before mentioned, and she sends Rouen ducks, golden Wyandottes (cock and hen), buff Orpington cock, and silver grey Dorking hen, and she brings home three prizes. The French, German, and Belgian exhibits are very numerous. Belgium sends 500 specimens, and British and Belgian varieties make the biggest display. The black French turkey is a fine bird, quality and size, not so large as the American bronze, and hardier than the Norfolk variety.

It is curious that the Andalusian, Spanish, and Minorca are mostly descended from English fowls. We suppose, as in the case of many other kinds of stock, we have so improved upon the original variety. It seems a pity that some of our big breeders were not there to strike, as it were, while the iron was hot, and "bag" a proportion of the orders that will go to the Frenchman and the Belgian. Perhaps some of our gentlemen are better breeders than linguists, suggests one writer, and we think there is some truth in this. It would be difficult to discuss "points" when your idiom was not very sure, and when the dictionary is your main stand-by. When it came to a question of price we think an Englishman could always make himself clear.

UTILITY POULTRY.—In this instance the reference is to laying propensities, and we are indebted to James Long, Esq., for his summary of what may be called "the laying contests." Now, fowls, like cows, differ greatly in their productiveness. Some fine, handsome cows are poor at the milk pail; some fine, fat hens are shocking bad layers. The fine profitless cow and fine fowl must both be condemned to the shambles. There have always been prejudices in favour of certain breeds, and tradition had it that such and such birds were grand layers. Well, tradition is often wrong, and when it comes to a practical test we get to know the worth of tradition.

The Utility Poultry Association has for several years had laying competitions, the time chosen being the winter months, or, rather, perhaps, those months when eggs are the scarcest and dearest. The test began October 16 and lasted till February 4. Any hen can lay in the spring and early summer, but what we want is a winter layer. It is an astonishing fact that the pure bred fowls do very badly. Their purpose is for crossing, and it is the cross-bred that come out the best. It is this crossing that supplies stamina, robust health, and vitality. The old-fashioned fowl is quite out of the running, and the more newly evolved breeds (if we may so designate them) come out the best.

Personally we do not know anything better than golden Wyandottes, and we find in this competition they came out first, four pullets laying 200 eggs in sixteen weeks. We have pinned our faith to white Leghorns for many a year, and we find their total was 185 in the same time. Buff Orpingtons came next with 164, and the list finishes up with

Minorcas, who only managed to raise 34 eggs, 33 of which were laid in the fourth month. Two pens of Leghorns varied a good deal. One pen produced no eggs at all the first month, against the other producing 40. We don't know, but we should fancy the non-layers were not in such tiptop condition. This is the fifth year of competition, and only once have the prizewinners beaten this year's record (200), and that was in 1899-1900, silver Wyandottes laying 223. We are glad to see buff Leghorns, that we think well of, came seventh in the list with 113 eggs.

There is a prevalent idea that takes arguing against, and that is the practice of setting the biggest eggs. Now, the biggest eggs, as a rule, are not laid by the most prolific bird. Her eggs are smallish, and get passed over—go into the market basket instead of into the incubator or under the broody hen. People want to look well to these little points, as one writer observes it is not the breed so much as the strain. Get a good laying strain, never mind the breed.

We have often said before, and shall again, that breeders defeat their own ends by having the stock layers hatched too soon. The pullets don't want to be moulting in October and November. They are wanted then for the execution of their duties. The very early chickens are those that should be got off early for cooking purposes. March and April hatched birds are the ones for the dead months.

There is another little point—we don't believe in late-hatched chickens. We like all to be off by the middle of May, that is if we mean to get any profit. If there are broody hens, possibly an outlet may be found for them by communicating with the nearest gamekeeper. We are much in favour of getting elderly hens out of hand in that way. The usual price is 2s. 6d., and their room is better than their company. The mistake that is made by so many poultry-keepers is overcrowding. Better have a few birds that you can do well by than more than the pasture can carry. We saw a hen and her brood the other day on a piece of grass near a kitchen door. Those little creatures visibly swelled before our eyes. They were constantly being fed—all sorts of nice fancy bits. They had the range of the yard, and in it they found stores of natural food. That hand food and that natural food divided between two or three more lots would have been as nothing, because there is but a limited supply of household scraps, and that is the food which does so much to keep chickens in health. There is variety in it, and it is all more or less nutritious.

Now, again to the egg question—not the production, but the preservation. Eggs are a daily necessity. Ask a cook, and she will tell you how fast she is without eggs. She owes an immense debt to the hen, and when fresh eggs are dear and scarce she has to be more careful than she likes. Every noted housekeeper has some little patent way of her own by which she secures a winter store, for it does seem aggravating to sell at eighteen or nineteen for 1s., as is the case in most country districts in the spring. The eggshell is porous. Keep the air out, and the egg retains its useful properties. The favourite preservative is lime and salt water, and in nine cases out of ten it is a success. The egg is good and useful for cooking, but is not suitable to boil. The white has a tendency to become watery, and sometimes, alas!—and we can't tell quite how—the yolk becomes as hard as a bullet. Some people again bury in salt, sawdust, sand, or smear with grease, which is rather a dirty, messy way, and none of these are quite effectual.

Much has been said of late as to the preserving properties of water glass (silicate of soda), and those who have tried it declare that at last they have hit the right nail on the head. The boiled egg has that pleasant milkiness so characteristic of the perfectly fresh laid one, and this after a year's sojourn in the preserving tub. There appears to be some little difficulty in getting water glass in the small towns, at least, so we found; and in a large town we could only get the solution, not the crystals. A pound of water glass to a gallon of water, although we ourselves are using more water. The great thing, we believe, is to put the eggs into the preparation directly they are laid, and they should be perfectly clean. We also should prefer ourselves to have eggs that were unfertile, so that there might be no risk of a germ that had started on its life career. If, as is said, the solution may be repeatedly used, the cost is very little. In any case, the cost is not of material importance if the preservative proves to be all its advocates declare. We are looking forward to the result of our experiment with great interest.

It is said, with truth, that the stomach is man's greatest friend or foe, and we think the same may be said as to the livers of fowls. If anyone is at the trouble of reading the answers to inquirers headed "Poultry" in any of the agricultural papers, it is astonishing how many cases of death and disease arise from the liver. It is the old story—improper food. The liver has more to do than it possibly can, and in the end succumbs. Damp also is a fruitful cause of liver mischief, and another factor is the scarcity of grit. Fowls are allowed unlimited grass runs. So far so good; but unless you supply it, where is the grit to come from? There is very little of a natural supply to be found, and that is soon exhausted. Grit is so easily made that it seems a shame a supply should be lacking. The high price of maize is one of the finest things that could have happened for the well-being of poultry. It is food which, to be of any use, must be given in the strictest moderation. We talk and write and reiterate the old advice, and people will follow their own sweet wills, and wonder how it is so many of their fine, fat fowls seek an early grave, or, if they do not do that, live an idle, useless, eggless life.

Work on the Home Farm.

We have rain nearly every day, but not yet too much in our opinion. Yesterday, at our local market, a few farmers were growling about it, asking for more sunshine and prophesying laid Barleys. These are the same men who have been short of hay and straw: and surely they are too exacting. As we drove to market, the difference in the appearance of the crops from that of the previous week was extraordinary. Present appearances remind us much of the season of 1894, when we had a record crop of Barley. May performance equal promise! Oats are naturally looking grand. One field belonging to a neighbour is so big that the owner is talking of mowing it off, or, rather, taking the top flag off, as he fears that otherwise it will not stand. We should chance it.

What a splendid time it is for young Clover! There will be a grand plant this year if the grain crops do not smother it. There is a possibility that this year grain crops may prove more severe tests to self-binders, and there is probably a connection between the binder question and the desire of some farmers for less forcing weather. It has been too wet to proceed with root sowing, but a good breadth is growing, and growing very fast. We yesterday heard a whisper about the appearance of fly, but must decline to believe that these could be true under recent conditions.

Very little horse work has been possible during the week. Horse-hoeing Potatoes and odd jobs have been the only employments, except one day's Wheat delivery. The price of corn per quarter is higher, but per stack it makes less money than in October. The gain in price is more than met by loss of weight and waste. With the same number of loads from the same field there should have been no difference except from the above causes.

There is a decided rise in the price of best Potatoes. Very few Up-to-Dates are left, and as the best customers will have no other kind, the value of this sort has touched £3 per ton at the pic. Others are very little better than they were. Some of the new kinds are cooking very black, and are almost worthless for eating purposes.

Pastures—even the poorly-set Clovers—have improved out of knowledge, and naturally farmers are holding their stock back. The warm weather is against beef, and we expect to see the markets take a strong turn in favour of mutton and a big boom in sheep.

Potatoes are growing quickly, and will want skerrying quite as soon as we shall find convenient. There is too much live sod in the ridges; the ridge harrows pulled the greater part into the furrows, where the rains revived it, and it must soon have another stirring up.

Ordinary Turnip skerries are of little use amongst Potatoes. A Potato horse hoc must be more of the nature of a grubber; it should have strong chisel teeth, such as will break up the furrows well, and we must not be afraid of using it. The Potato loves loose, freshly worked soil, and we must have plenty of this to earth the crop up with.

"The Country."

The June number of the "Country" is very interesting, and provides a varied fare of literary articles illustrated. Dogs, birds, insects, bees, eels, and eongers; ploughing, its systems in various counties of England and in other countries, together with much that is useful and delightful to read about in regard to Roses, Pæonies, and Strawberries, are among the chief features of the issue. Messrs. Dent and Co. are the publishers; price 6d.

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Journal of Horticulture.

THURSDAY, JUNE 19, 1902.

Sundials and Sundial Mottoes.

PERHAPS the earliest mention of
a sundial was that of Ahaz, of
713 B.C., to be found referred
to in Isaiah xxxviii. 8; while
another is that invented by
Anaximander, 550 B.C., to which
Pliny refers. The first dial of the
sun seen at Rome was placed on the
temple of Quirinus by L. Papirius
Cursor, when time was divided into hours,
which dates from 293 B.C. The solar equi-
noctial dials used in Egypt, by which Eratos-
thenes metred or verified the measure of the
earth, were concave hemispheres, in the
middle of which was a perpendicular stylus.
The dial introduced by Anaximander at
Lacedæmon was of this kind, to indicate the
equinoxes, solstices, and—by their means—the
seasons. The Phœnicians and Pherecydes
claim the honour of the invention. At
Orchomenus, in the wall of the church, is an
ancient dial, in which the gnomon has long
disappeared, but everything else is entire.
The letters of the dial for numbering the
hours by the earth's motion were ten in
number, ΑΒΓΔΕΖΗΘΙΚ, and these were
all sculptured in relief upon the surface.
This dial is probably not of remote antiquity.
The Romans were long ignorant of the con-
struction of dials, and the ancients sometimes
placed them upon small columns. In 1759, at
Nettunt, the ancient Antrim, there was
found a vase of silver, upon which a dial was
seen in this position.

In this country dials were first set up in
churches about A.D. 613, and one of the most
ancient is to be found as one of the corner
stones of the south wall of the nave of the
church at Lyminge, which is supposed to have
originally formed a portion of a Roman villa
at that place, the church bearing distinct
traces of Roman and Anglo-Saxon masonry.

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Appointments or Notes of Horticultural Interest,
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Publication, officially to "**THE EDITOR**" at
12, Mitre Court Chambers, Fleet Street,
London E.C., and to no other person and to no other
address.

The lines of this dial are cut rudely, but somewhat deeply, on the stone. At Mersham Church again will be found traces of other very ancient dials, also cut in the stone, the stones around the south doorway of the Early English Church there bearing traces of seven of these old circular sundials. At Barpeston Church there is another very similar dial, and at Patricxbourne traces of four others can be seen, and at Swingfield and Smeeth dials of a similar character are to be found. At the Early English Church of the village of Warehorne there is to be found built into the south wall a stone upon which is carved an ancient vertical dial, of which I have sketch, which will convey a fair impression of those touched on in the preceding lines.

Leaving churches for a moment to make a call at a local museum, there will be found in that at Dover a very curious example of dial, which was found, in 1862, on the site of the ancient Church of St. Martin's-le-Grand, Dover, which edifice was founded by Wictred, King of Kent, 693-725 A.D. This dial is composed of a cube of oolite, between four and five inches square, with one heart-shaped, two triangular, and two semi-cylindrical dials hollowed out of the sides. At the Maidstone Museum is a very pretty and ingenious sundial, which is constructed in the shape of a cannon, with a burning glass carefully focussed over the touch-hole, so that the miniature gun being primed, the sun at midday fires it off. The cannon is of metal, and is affixed to a circular slab of marble, on which are cut the radiating hour lines, with the maker's inscription as follows: "Victor Chevalier Jngr Breot de l'Horloge 77 à Paris."

Quitting museums for mansions, there will be found in the ruins of Wingfield Manor, Derbyshire, the remains of a couple of dials, placed there in 1678, by the then owner, one Immanuel Halton, an astronomer and mathematician. One, that over the bay window of the banquetting hall, is one of the simplest in form to be found throughout the country. In a cottage garden at Denton, near Canterbury, is a red brick and plaster dial, some sixty years old, the base of which is spiral, with a half-circular hour marked dial on top, with a gnomon in the centre. This dial was built by Richard Webb, a master mason. At Wimborne Minster is a dial dated 1732. It is of stone, 6ft in height, 4ft in width on its south face, and 3ft on its east and west faces respectively, each of which bears a gnomon. At Chilham Castle, in the grounds is a handsome dial, which was erected in the second half of the eighteenth century. The stone pedestal, though weather-worn and marked by the scores of time, has traces of very fine and handsome carved work, and the plate, which is also very richly ornamented, bears the arms of the Colebrook family, and the name "Thomas Wright, Instrument Maker to H.M. George II." In the adjacent Chilham churchyard is a dial which is credited with having been designed by Inigo Jones, the name "G. Stedman, London," being engraved on the plate. The stone shaft is gracefully curved, and the gnomon is protected by a copper support, which was placed there after an attempt had been made to wrench the gnomon off.

Leaving these old world dials for a moment, I would draw attention to a very good specimen of the modern kind in that to be seen on the terrace in front of Lauderdale House, Waterlow Park, Highgate, London. This house was formerly the residence of Nell Gwynne, and the dial was put up when the park came into the possession of the London County Council. The plate itself, in which the figures are deeply cut, is a handsome slab of white marble, mounted on a stone pediment, and on the top is a small brass plate which states that "This dial plate is on a level with the top of the dome of St. Paul's Cathedral."

Returning to the past, at Minster, in the Isle of Thanet, will be found a couple of dials which are deserving of mention. One, near the west gate of the church, has inscribed on it the three dates of 1841, 1873, and 1890, evidently the dates of restorations, while on the oak shaft are the initials W. H. and G. R., with the date 1641. The dial altogether presents a somewhat woe-begone appearance. At Aldington, whereat Erasmus laboured as rector in 1511, in the graveyard is a dial mounted on a wooden shaft bearing the date 1799, and the initials T.M. and W.M., with the mottoes in Latin and English of "Pereunt et imputantur," and "The hours pass and are reckoned," the initials before referred to being those of former churchwardens. The shaft is square in design, and terribly wormeaten. In the churchyard of St. Stephen's, Lympne, there is a decidedly novel dial. The plate is circular and old, but it is mounted on a

cast-iron setting, the edge of which bears the same motto as that at Aldington, but the corkscrew or twisted shaft, with a centre boss, is of cast-iron, ending in a circular foot, which is embedded in a circular base of brickwork, and the effect is mean and paltry in the extreme—an instance of bad and ignorant restoration.

At Smeeth, which we will revisit for a moment, there is a very pretty old dial, with a pedestal of black oak, mounted on a small platform of tiles and clamped oaken timbers. The dial plate is 8in square, and the gnomon has a similar support to that found at Chilham. The pillar has a square capital, tapering beneath to a bulging centre or boss, and tapering again towards the foot, which ends in a square base matching the top, the whole effect being that of a substantial old-fashioned baluster, having carved thereon the initials E. H. and C. W., with the date 1826.

In the High Street, Rye, over a boot-shop, is a well preserved and admirably carved oval dial, some 2ft deep, having a panel in the centre, in which is represented Father Time, painted black, and carved in high relief, the figure bearing the customary scythe and hour-glass. This dial, altogether, is a very fine example. On the Town Hall of the same place is a comparatively modern specimen, it having been presented to the burgesses in 1831 by Sir De Lacy Evans. It is of stone, and formerly adorned the wall of the Grammar School, being afterwards removed to its present site. Like the one before referred to, this has also a central panel, the figure in this case also being Time, albeit he has lost an arm, head, feet, and hands. On the figure-plate is carved the motto: "Tempus edax rerum" ("Time the devourer of all things"), and below is the inscription, "The solar shadow as it measures life it life resembles too." At this same place, round the church clock, which is reputed to have been presented by Queen Elizabeth, there is this motto: "Our Time is a very shadow that passeth," which is decidedly more applicable to a sun-dial than a clock.

On the Church of St. Mary the Virgin at Dover is to be seen an ancient dial of the vertical order, which besides being old, is eminently artistic, this being intensified by its position on the Norman tower. This dial, of wood, about 2½ft square, is white in the centre, with a black border, on which are painted, on the two sides and bottom, in white, the numerals. Two strips of lead, nailed to the top and eastern sides, serve to protect this old-time dial. In the High Road, Chiswick, lying back a little from the roadway, is an old-fashioned, low-ceilinged, red-tiled roadside inn, called the Old Windmill, which, as the swinging signboard on the pavement tells, was established in 1717. Between the windows on the first floor, immediately over the fascia, is an old-time sun-dial bearing this motto: "So flies Life away."

Leaving dials, the preceding collection of which could be very considerably increased did space permit, I come now to deal with some of the mottoes to be found on them. Thus, some originality of idea may be claimed for the quaint motto of a Nottinghamshire dial: "To-day is yesterday's tomorrow"; also in the inscription, "Now, or when," found upon a dial at Beverley Minster. The motto, "Begone about your business," is inscribed upon the dial of an old Cheshire abode, and is said to have been placed upon the dial of a house in Pump Court in the Inner Temple, which was removed in 1820. It is related that this motto owed its origin to the testy reply of one of the Benchers of the Temple, who had promised to furnish a motto for this sundial, but, having forgotten his engagement, saluted with this testy exclamation the messenger who interrupted his studies with a request for the promised device. By design or mistake the words, "Begone about your business," were accepted as the sundial's motto, and duly painted beneath it.

"Allez vous" was the motto of a foreign sundial once to be seen in a Devonshire garden, and an Italian sundial motto claims that "The maker may err, the iron may err, I never err."

Other mottoes are:—"I am a shade, a shadow, too, art thou"; "I mark the time, say, Gossip, dost thou see?"; "Detego tegendo"; "Amidst the flowers I tell the hours"; "You may waste, but cannot stop me"; "Remove not the ancient landmark which thy fathers have set"; and "Life's but a walking shadow," with which except from Macbeth my selection must close, my concluding remark being the quotation: "There is no human discovery more ancient, or more interesting than that of a sundial."—WM. NORMAN BROWN.

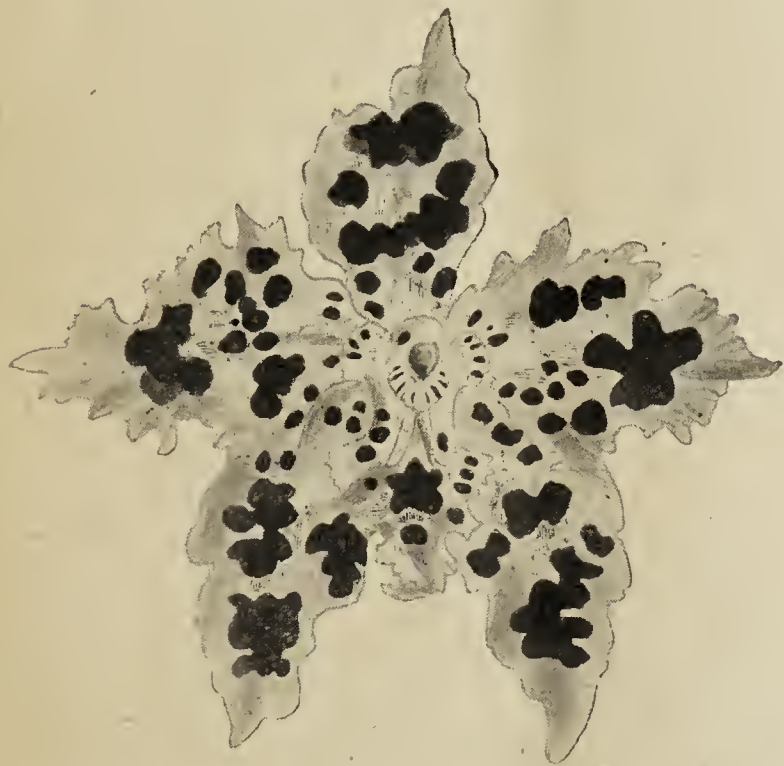


Odontoglossum × Adrianæ Sybil.

Captain G. L. Holford, C.I.E., Westonbirt (grower, Mr. Alexander) received a First Class Certificate in recognition of this variety (which we illustrate) on May 20. It is a very large and handsome form, and exceedingly distinct. The segments are firm and wax-like, with wavy edges, and each is beautifully marked with deep chocolate or chestnut-coloured spots on a canary-yellow ground. It is a noble hybrid.

The Week's Cultural Notes.

The Cattleya house is very gay just now, and where a separate flowering house exists it is easy to spoil many of the choice blooms by over-abundant moisture. The plants need it, of course; many are growing freely, and can hardly be over-watered either at the roots or in the atmosphere, but the blossoms spot very easily. A very good plan is to group all that are in flower in one corner, preferably the coolest end of the house, and use as little moisture there as possible. A little top air day and night will serve to prevent the moisture settling on the flowers.



Odontoglossum × Adrianæ var. Sybil.

Regarding the plants themselves, Cattleya Mossiæ will only just be commencing to grow from the base of the flowering bulbs. Unlike *C. Gaskelliana*, which makes its new growth and flowers upon it the first season, *C. Mossiæ* has it all to do afterwards, so in order to give it the best chance possible it is usual to place the plants in the lightest and warmest part of the house, and pay special attention to them from now onwards. *C. gigas* and *C. aurea* are both throwing up their flower spikes, and must be encouraged. At the same time, keep the plants in a bright light, hardened well ripened specimens being far less likely to stool unseasonably than those that have been grown in shade.

Laelia majalis is now throwing up its spikes; that is, it will be if the plants have been properly treated. As I have before pointed out in the Journal, it is useless to expect this lovely Orchid to flower freely unless it is absolutely exposed to all winds and weather as autumn comes on and the growths are maturing. Just now the forming growths and spikes make a large demand upon the energies of the plants, and their wants must be met by copious moisture supplies.

That pretty *Dendrobium*, *D. Brymerianum*, flowers more freely, and makes finer growths in the Cattleya house than when grown in stronger heat, and there are many others of the evergreen and partially evergreen species that are also better suited here. *D. chrysotoxum*, *D. densiflorum*, *D. thyrsiflorum*, *D. Paxtoni*, and *D. suavisimum* are cases in point; while among the grosser growing species *D. moschatum* and its allies may be mentioned. All these Orchids like the fullest exposure to sun and light in the growing season, the more shady portions of the house being allotted to *Bolleas*, *Warszewiczellas*, and *Pescatorcas*. —H. R. R.

Commercial Horticulture.

During the last two years the growers of many kinds of horticultural produce have passed through a trying time indeed, which has been brought about by a combination of circumstances. Unseasonable weather certainly cannot be blamed for the condition of affairs which have prevailed, as crops have, as a rule, been abundant, so much so in fact that the soft fruits which have glutted the markets during the summer and early autumn affected the price of hothouse fruits to a considerable extent. When hardy fruits are plentiful and good, the demand for Grapes is usually not so brisk as during less fruitful seasons. Last year was remarkable for the low prices obtained for Grapes, and Tomatoes were often sold at prices which left a doubtful margin of profit for the grower. To the above we have to add the significant fact that labour has been scarce and fuel dear, and when these three conditions—i.e., low prices, scarce labour, and dear fuel—are found in combination, the commercial horticulturist must necessarily be "hit hard."

The scarcity of labour has doubtless been to a great extent caused by the long struggle for supremacy in South Africa, and the demand for choice fruits and flowers has, of course, been considerably lessened for the same reason, as while the war was raging parties and other festivities were less numerous than usual. All these things, taken in conjunction with the abundance of hardy fruits, have had the effect of hitting the grower of choice fruit hard. Africa also is a land of fruits. There was, therefore, but little need to send fruits among other food supplies. If, however, vegetable growers in this country had long ago turned their attention to the process of preserving vegetables they might have reaped a good harvest by sending supplies which had to be obtained abroad. This is a matter which should certainly have immediate attention, as it is one in which a new industry might be created; and if in conjunction with it we can perfect our methods of drying fruits, a wonderful impetus will be given to market gardening.

So far I have touched upon the conditions which have prevailed in the recent past; let us now look to the future, and add "hope" to the universal gladness which rings out strong and clear around us. The glad tidings of "Peace"—so long deferred—have at last been borne with joyous enthusiasm throughout the Empire. The struggles of the past, the splendid heroism, and the brave who sleep beneath the lonely veldt are not forgotten; but a cry of thankfulness goes up that the strife is over, and that future prosperity seems assured. Such welcome news, coming as it did a few weeks in advance of the Coronation, will add greatly to the zest with which that great national event will be celebrated, and few trades will be more beneficially influenced by the "turn of events" than commercial horticulture. The demand for flowers, fruits, plants, and vegetables will undoubtedly be so great that, although preparations on a gigantic scale have long been in progress, the available materials will be so closely used up that a brisk demand will be ensured throughout the season. The markets have already been affected, and shrewd men are buying in advance much of the material they require.

Old hands, however, among the producers are holding back, as they know well that just at the critical time when materials must be obtained is the time to get top prices. Two days ago I saw two large span-roofed houses filled with fine *Pelargoniums* in 32-sized pots. The bulk of them consisted of two well-known varieties, *King of Denmark* and *Raspail*. They were unfolding their flowers freely, and in ordinary seasons would be placed on the market at once. The owner, however, intends to "hold" them till about a week before the Coronation, and he has little doubt that such fine plants will then be eagerly snapped up.

Bedding plants have met with a quick sale, and the demand for them seems likely to continue to a much later date than usual. Cut flowers of the right type, and especially *Roses* and *Lilies*, will be keenly sought after, and anything that can be done during the next fortnight to either retard or forward them, so as to have them in good condition just in the "nick" of time, should receive special attention. Grapes, Peaches, and Tomatoes will, of course, be in great request, and although many growers may have the former ripe at the present time, it seems highly probable that better prices will be obtained at Coronation time, and throughout the following week, than now. Peaches cannot, unfortunately, be kept long after they are ripe, unless special means for cold storage are at hand, and prices have been so good that few would care to risk anything by holding.

Owing to the recent dull and cold weather, Tomatoes have not ripened very rapidly, and instead of picking them before they are well coloured as many growers do, it will certainly be wise to allow them to hang till highly coloured, and to have as many as possible in that condition from the 20th to the 26th of June. A little special manure applied to give high colour should prove a profitable practice, as at these festive times high

colour carries great weight with purchasers on the look out for "specials." What is badly wanted now among market growers is bright sunshine for a couple of weeks, which would make everything move forward with a bound, and enable them to reap the full reward for which they have been striving during the last six months. All things considered, the present season promises to be a bright and prosperous one for those engaged in commercial horticulture, because in every city, town, and hamlet of Britain there will be simultaneous festivities. That the above anticipations may be fully realised is the earnest hope and belief of—ONWARD.

Gadding and Gathering.

"HERE AWA', THERE AWA'."

Little Known Plants.

In a corner of the Nepenthes house at Kew there is a plant of *Rudgea macrophylla*, tall and woody, bearing dense, terminal spikes of pure white, tubular, waxy flowers. The plant is allied to *Coffea* (Rubiaceæ), and is interesting if not either very useful or beautiful. The leathery green foliage is 1ft or more in length, and oblong; being also 5in to 6in broad. In the stove, on the left-hand side from the Victoria house, there are a number of graceful tropical plants that might be brought more into the light of common observation were some of our progressive nurserymen to secure young plants and raise a stock of them. Thus there is *Gustavia gracillima* (Myrtaceæ), with comparatively narrow leaves arranged in verticells. When grown with a single, upright stem the plant is graceful indeed, and one that would be welcomed in any collection of stove plants. The *Aphelandras*, of course, have their claims recognised in a measure, though in numerous gardens their presence is entirely absent. Another curious and botanically interesting plant, at the same time decorative, is *Dalechampsia roezliana*, with conspicuous pink bracts. The inflorescence is very complex. Within the two outer bracts there is another smaller bract, on the axis in whose axil is a three-flowered cyme of female flowers. Above this is the male part of the inflorescence, starting with four bracts and including a curious yellow cushion. In one species of *Dalechampsia*, the cushion secretes resin, which is used by bees for nest making, and attracts them to the flower. The genus is of the natural order Euphorbiaceæ. As a wall climber *Marcgravia umbellata* would in many cases prove serviceable. It has long pinnate leaves, the leaflets smooth and shining, and luxuriantly borne. Another suitable climber, and one not known outside of botanic gardens, is *Paullonia thalictrifolia*, the specific name in a way describing the general resemblance of the foliage to those of the hardy *Thalictrums*. It grows twiningly, and furnishes upright pillars very handsomely. *Asparagus Duchesnei* is a new species, and would appear to have reached Kew from the Continent only a year ago. It possesses long and graceful stems, much after the style of *A. Sprengeri*.

Some of the nurserymen now possess this novelty, and soon we may see it become more common. *Tococa latifolia*, a large, ovate-leaved species, requires more space, probably, than can be afforded in the average stove house; but the plant is undoubtedly one of the most handsome and distinct in cultivation. The leaves are strongly ribbed, dark, shining green above, reddish beneath, 14in to 16in long, and about a foot across.

Messrs. Sutton's of Reading.

It was remarked by more persons than one that Messrs. Sutton and Sons, the Royal Seedsmen at Reading, were unrepresented by any exhibit whatever at the late Temple Show of the Royal Horticultural Society. The reason lay, we believe, in the restrictions imposed in the matter of space that could be allowed. Messrs. Sutton and Sons have at their London Road Nurseries, Reading, collections of *Calceolarias*, *Gloxinias*, and *Cinerarias* of quality unsurpassed by any strains we have met with; and certainly their beautiful *Calceolarias* are unrivalled. The plants are large, but not leggy, carrying immense "clouds" of huge and well-formed pouches, their spotted mammoth varieties being quite a speciality. These spotted *Calceolarias* are indeed outstanding. The ground colour is almost invariably yellow, and the spots are crimson or rich maroon. Then the self-coloured forms also furnish a rich and brilliant exhibition of colour, particularly that general favourite named *Cloth of Gold*. Only the best varieties are used for crossing with, and these, of course, produce seeds that can be thoroughly depended upon to provide robust and typical herbaceous *Calceolaria* plants. What strikes the visitor most, and recurs again and again to his mind, is the enormous profusion of these huge flowers. It emphatically serves as an object lesson, marking the perseverance and judgment of those whose business it has been to develop results such as they are to-day.

The *Gloxinias* as a class require the strictest watching. It is so very recently that the genus was characterised by those bad habits—the drooping flowers and huge, erect, uncouthly formed leaves. Now it is the one end and aim at Reading to possess a pure "crassifolia strain," which is, a strain of plants whose leaves are exactly opposite to one another on the stem, and the pairs alternately at right angles. The edges of the leaves should be nicely crenated, the leaves themselves roundly oval, and marbled here and there with that beautiful pale silvery colour which is a feature in the best of *Gloxinias*. The round and open-mouthed flowers are held erect and produced in great quantities. It seems invidious to select even a few named varieties, but we shall confine ourselves to *Her Majesty*, an unequalled spotless white of great superiority; *Reading Scarlet*, whose colour is so intense it almost seems to glow; *Duke of York*, a rich dark blue; *Violet Queen*, a delightfully spotted and netted *Gloxinia*; *Empress*, which is more recent than the others, and is nearly white with a rich creamy throat, and is finely spotted with violet. This is an exceedingly chaste flower, and worthy of special notice. *Sutton's Purple* is another variety whose rich colouring greatly attracted us. But with these few we leave the selection. Growers in the great majority of cases are satisfied to rely on mixed packets of seed, which, of course, contain varieties of the highest type.

And, lastly, there are the *Cinerarias*, whose charms and graces were seen at their best about the 1st of the month. The older dwarf types, with large flowers and massive inflorescences, nearly all on the level or slightly domed, have lapsed from general popularity, and in place of them one everywhere finds the æsthetic stellate *Cinerarias*. These are likely to gain and remain in favour, because while they are as showy in the conservatory as the dwarf growing type, they at the same time provide armfuls of just the sort of flowers the floral artist most desires. As there still remains a conservative regard for the dwarf single *Cinerarias*, these are still largely grown and selected from at Reading. The stellata type, however, is the flower of the moment, and it was interesting to observe the differences there are among the forms of this flower. While all have the freely branching habit, with slender stems, not all of them are so "starry" as choice would have them to be. The small flowered stiffer sorts, and particularly those with dull slaty blue disks, are being discarded in favour of those with longer, radiating petals and good habit of growth generally. All colours, from white to deep blue, and from this to palest pink, are represented in mixed collections of these stellata *Cinerarias*.—WANDERING WILLIE.

Overcropping Apples.

In the whole of gardening practice there is no greater mistake than that of overcropping. It is bad in every department, but worst of all with fruit, for not only are the trees incommoded during the one season, and prevented from giving good fruit, but they are often seriously checked for another year—a more important point even than the other. The effects upon *Peaches* and *Nectarines* are very marked. The trees are called upon to produce about twice as many stones as are necessary; and this takes far more out of them than the production of the edible part or flesh.

But the strain upon the trees is so great that even the small amount of flesh upon the fruit is not worth anything. It is poor in flavour, and the fruits usually drop before they are properly ripe. Instead, then, of having, say, a hundred fine luscious *Peaches*, or high flavoured *Nectarines*, upon any given tree, we have—if the fruit is not properly thinned—perhaps double that number, and, out of all, not a score fruits that one could possibly send to a nobleman's table or a high class fruiterer's shop.

Apples on small trees are often badly treated in this way. With large orchard trees there is a great difficulty in thinning, and, without a doubt, this, combined with the let alone principle on which the trees are treated, is responsible for their often bearing once only in two years. But with small trees there is no necessity for this. The fruits can mostly be thinned by hand from the ground or a short pair of steps, and the increased value of the produce is out of all proportion greater than the trouble involved.

Even small and bush fruits may with advantage have attention in this way. *Gooseberries*, *Currants*, and even *Strawberries*, unless there is a large demand for cooking fruit, should be well thinned. It is just now that the result of not thinning is most apparent, and I would ask any thinking producer to have a look round the nearest fruit plantation to him. In nine cases out of ten he will find this season trees overburdened with small and comparatively useless fruit, that by judicious thinning may have been useful and profitable to the grower.—H. R. R.



The Aquarium Show.

(Continued from page 510.)

In the first instalment of his letter, Mr. T. Pockett referred in general terms to Chrysanthemums at Swanley, at Reigate, at Earlswood, and in Paris, where he had taken special notes when on a visit to Europe last summer. He proceeds to discuss the great London Chrysanthemum Show as follows:

"No doubt the finest show was that of the National Chrysanthemum Society, at the Aquarium, on November 5. Nearly all the available floor space was taken up with the exhibits, besides two large rooms, passages, and corridors upstairs. Perhaps the chief interest was centred in the vase classes. In the twelve vases of specimen blooms of Japanese, each vase contained five blooms, and each bloom stood about nine or more inches above the vase. There was also in most cases, an additional stem with foliage attached, and tied to each stem, carrying a bloom. The prizes were £20, £15, £10, and £5. The first prize went to Mr. Vallis. His blooms were just perfection, and every petal appeared as fresh as possible. Many of the blooms were 8 in or 9 in in diameter, and 6½ in to 7½ in in depth. The varieties were: Madame Carnot, Mons. L. Remy, Nellie Pockett, Mr. T. Carrington, Mrs. J. Lewis, Mons. Chenon de Leche, Australie, E. Molyneux, Le Grand Dragon, Calvat's 99, Mrs. Barkly, and Mrs. Mease. The second prize lot was also very fine, and was awarded to Mr. Beckett, with the following varieties: Nellie Pockett, J. R. Upton, Mrs. Weeks, L. Humphries, Lady Hanham, Madame Carnot, Mrs. Coombes, The Princess, Mrs. Barkly, Mrs. Mease, Mr. T. Carrington, and Alice Byron. The third lot, which were very little inferior, went to Mr. Meredith, with the following: Florence Molyneux, Lord Ludlow, M. Chenon de Leche, Le Grand Dragon, Mutual Friend, Mons. L. Remy, Lord Salisbury, Madame Carnot, Mr. G. W. Palmer, Calvat's 99, Mrs. Barkly, and Mrs. Mease.

"Other competitors had very meritorious exhibits, and some wonderfully fine blooms of various kinds, but they were not of the uniform quality of those exhibits referred to. It may be asked, how do our best blooms compare with them? And without fear of contradiction I will repeat what I said before the principal exhibitors, judges, and officials at the luncheon in connection with the Aquarium show, where I was officially invited.

"I said that we in Australia could show individual blooms that would compare with the best set up that day, but we could not possibly set up an exhibit with all the blooms of that same high quality. Why, there was hardly a bad bloom in the whole of the vases that did not get a prize, and I heard an exhibitor that used to take some of the leading prizes say, 'I have the best stuff here I ever had, and yet not a prize,' although fairly beaten. Many other prizes were offered for blooms in vases, and they were well contested, and I think it proved conclusively that the vase is the coming receptacle for showing the flowers in the future.

"For the Holmes Memorial Challenge Cups and other prizes the blooms were shown on boxes similar to what we are used to, but the boxes seem far too small, as many of the blooms were overlapping each other. They were (generally speaking) of high quality. In the Incurved section (what we generally call Chinese), Mr. Higgs takes the pride of place. Many of his blooms were 6½ in in diameter, and the same depth. The competition in these sections was not so keen as in the Japanese varieties. The fountain groups, composed of blooms and plants of Chrysanthemums, were worth seeing, also the groups set up by the trade growers. Mr. Godfrey had about 700 large exhibition blooms, principally his own raising. As they appeared to me, I thought the best were Godfrey's King, Queen Alexandra, Sensation, Exmouth Crimson, Bessie Godfrey, and Exmouth Rival. Mr. Cannell had a nice display set up on Maidenhair Fern. I noticed the Australian varieties as most conspicuous in this exhibit, such as T. Carrington, Australie, W. R. Church, General Hutton, Mrs. H. Emmerton, Rev. W. Wilks, Marjorie and Frank Hannaford. Other fine groups were exhibited by Mr. H. J. Jones, Hobbies and Co., Limited, Mr. Pulling, Mr. Owen, and others.

"A few very good trained specimens may be seen, but the staked specimens were not so good as many that we have seen when there was good competition in Melbourne.

"Before referring to other shows, I may mention that I had the pleasure of a chat to Mr. Bevan (the president), Mr. R.

Dean (secretary), Mr. Harman Payne (the foreign correspondent and secretary), Mr. H. Weeks (the famous English raiser), and many other gentlemen that are associated with the N.C.S. Each and all very readily gave me a hearty welcome, and before I left the show I also shook hands with the champions, the ex-champions, and was congratulated for doing my part by sending over varieties that would not disgrace them in competition.

Birmingham Chrysanthemum Show.

"Many of you will have seen, or heard, of the Birmingham Chrysanthemum Shows, which are held at Bingley Hall. The last was on November 12, and as a show it was a good one. Bingley Hall is very large; it was set out with rows of tables containing exhibits. A band played in the centre. Some of the surrounding floor space contained very fine groups of Chrysanthemum and foliage plants, Crotons being one of the chief plants used. There was also a quantity of trained and staked specimens of Incurved and Japanese Chrysanthemums. The best of the former was M. Ferlat and N. Molyneux, while the best of the latter were Mrs. Ritson, Colonel W. B. Smith, V. Morel, Lady Hanham, and Chas. Davis. The plants were about 3ft 9in in diameter, and the same in height.

"There was a spirited competition in the groups; the best was composed of a large pyramid of Chrysanthemums, while four smaller pyramids contained Palms and Bamboos in the centre, and the outer space was filled with well grown blooms, interspersed with Crotons and Palms, and with the addition of smaller plants for facing it was a very fine exhibit. The cut blooms were not, I believe, up to the usual standard, owing to the fog being very bad some days prior to the show, but some good blooms were to be seen, although not so numerous as on former occasions. The non-competitive exhibitors of Chrysanthemum novelties were Messrs. Godfrey, Wells, and Weeks."

(To be continued.)

The Sale of Poisons.

Before the Kingston-on-Thames County Magistrates on June 12, Joseph Hutchinson, seed and artificial manure merchant, appeared to answer three summonses for selling a poisonous vegetable alkaloid without having his name and address on the bottle; for selling the poison to an unknown person; and for failing to make an entry of the sale in a book kept for the purpose, contrary to the provisions of the Pharmacy Act, 1868. Mr. Vaughan Williams, barrister, appeared to prosecute on behalf of the Pharmaceutical Society; and Mr. T. G. Dobbs, solicitor to the Traders in Poisons Protection Society, appeared to defend.

Mr. Vaughan Williams, in opening the case, said the poison the defendant was charged with selling was contained in a compound known as "the XL All Vapouriser Fumigator," used for the destruction of insects in greenhouses. In a two-ounce bottle there was sufficient nicotine to poison hundreds of persons.

George Henry Steer, of the Pharmaceutical Society, deposed to visiting the defendant's premises at Cobham on May 5 and purchasing a bottle of the fumigator. It was supplied to him by the defendant's brother, who did not know him, and the defendant's name and address were not on the bottle.

Harry Moon, clerk to the Registrar of the Pharmaceutical Society, deposed to receiving the bottle from the last witness and sending its contents to be analysed. There was a label on the bottle containing the following notice: "Tobacco is generally considered to have somewhat poisonous properties, and the juice of tobacco which collects in the stem of a pipe is well-known to be poisonous. This compound contains the concentrated nicotine of tobacco, and should be kept in a safe place and out of the reach of children."

By Mr. Dobbs—A special commission had been appointed by the Privy Council to inquire into the sale of poisons for purposes connected with agriculture.

Mr. Thomas Tickell, analyst, spoke to examining the compound, and said it contained over 20 per cent. of nicotine, sufficient, in his opinion, to kill between five hundred and six hundred persons. In two ounces there were one hundred and eighty-six grains, and one grain of nicotine would be fatal to two or three persons.

Mr. Dobbs, in defence, urged that an article of this kind, which was sold for trade and technical purposes, had been held to be exempt from the provisions of the Pharmacy Act. If it were not so the business of many tradesmen would be ruined, and it would be vesting a monopoly in poisons in the hands of chemists, a thing that the Legislature never contemplated.

The magistrates considered the case proved, and fined the defendant £2 on each of the three summonses, including costs. They consented to state a case.—("The Morning Post.")



Bothies as Moral Nuisances.

Be not afraid, "Journeyman," that bad bothies, even such as you so graphically depict on page 338, will ever prevent the "good gardener" being "about." Evidence, too, is not wanting to show that the bothy question is keeping pace with the progress of gardening, and if the recent discussion upon it forwards the matter, so much the better; but not a few examples could be adduced to prove that the lad whose love of gardening is deep and strong, who has the real good gardening grit in his bones, will not be affected one iota by his lodgings, good or bad. It is an inherent power of man to rise superior to his surroundings—adverse surroundings. Anomalous as it may appear, when every pebble is picked out of a boy's path, and his way is made straight, too often does he perversely take the crooked turn. For instance, how many head gardeners' sons, bright intelligent youths, whose lot has been cast in pleasant places, have in their training as gardeners utterly disappointed their friends by turning out failures! Ah! I could some tales—sad tales—unfold to support this statement if necessary, which is not probable, although it is difficult, perhaps impossible, to understand such things; but the facts remain, and "darna be disputed." Although the old-time bad bothy seems to be still, unfortunately, in evidence, let no lad's lodgings be to him an excuse for remissness on his part in fighting the good fight, firm in the faith, and confident in his powers to come out at the top if—if he so wills it.—AN OLD BOY.

That there are a few good bothies spread over the kingdom does not even afford the remotest cause for pleading the despicable nature of the greater number. Nor is it at all likely that the great majority will ever rise to the dignity of the ideal palaces we so often see suggested, that ought to constitute the modern bothy. The bothy almost invariably is the only place from which the attention of the visitor is diverted when shown over the garden: the why need not be stated. Much blame has been attached to the proprietary for this condition of things. They may not be altogether guiltless, but I am bold to say that the greater blame attaches to the head gardener, who accepts of a charge where the conditions are not in this respect at least favourable. Let him be honest with himself first, and there is little fear of the after result. He should never mind if his prospective employer casts him aside for his integrity, which probably he will not. But, alas! how different matters are! It is seldom that the gardener, when engaging, inquires into the state of the bothy at all. If it exists, that is sufficient, and, strange to say, to many this seems a necessity. Mr. "H. R." is somehow dubious about my relations with the bothy. He may rest assured that my baptism in that non-essential part of horticulture has been duly performed, and were it not that I had a natural distaste for all that predisposed to horsiness, rudeness, and rusticity, I have no authority for thinking that I should not have yet remained in a like condition to that of the average companion I found there. I may also say that I never took kindly to the bothy. I therefore, when possible, preferred to have my residence situated in more natural and congenial conditions. The bothy is, I argue not, a suitable enough place for the conservation of muscular energy, but I found it but ill adapted for the conservation of mental energy—indeed, a place totally unfitted for study. I never was too selfish to deny my companions their boisterous ideas of enjoying themselves, though I often essayed to lead some of them into a more satisfactory groove. Without discussing the nature of life in a bothy, it may suffice for those unacquainted with the matter, that such would not for a moment be tolerated in third-rate lodgings. This being so, there is little to wonder that bothy inmates have a decided preference for such a life, and many gardeners have, on account of their environments, never been able to brush off the effects of their previous associations with the same life, fall into the error that it is practically unassailable. "H. R." solicited me to tender a substitute for the bothy. Well, perhaps this is more than could be expected, but I shall inform him how I got on in his own country. All my young men went home to the family circle at night. There was no necessity for their attendance at the place, for I had an upright boiler which, when properly regulated, required no attendance from six o'clock at night till the same hour next morning. The fuel was anthracite. The bothy was used for cooking their meals. Sunday duty was similar to that of any other day. I have a predilection for permanent garden hands. The nomadic imbecility which prevails among young gardeners is detrimental alike to themselves and

the profession. Give men pay for Sunday duty and the fullest consideration for a weekly wage, and turn your bothies into Mushroom sheds, and you will be conferring a blessing on the men, an honour to society, and a boon to your employer.—C. H. S.

Profitable Apples.

I have much pleasure in giving the names of a few good varieties of midseason and late Apples, of upright habit of growth, which, I think, will be suitable for "Beginner" (page 512) to plant among Cob Nuts. Worcestershire Pearmain, Bismarck, Allington Pippin, Cellini, King of the Pippins, and Warner's King are splendid Apples of upright habit of growth. The first-named is usually regarded only as an early variety, but in reality it will keep perfectly well till Christmas. For use after Christmas, Gascoigne's Scarlet, Lord Derby, Newtown Wonder, Annie Elizabeth, Alfriston, and Northern Greening will answer admirably. Cox's Orange Pippin does, as "Beginner" suggests, assume a spreading habit of growth, so also does that grand late sort, Lane's Prince Albert; or, perhaps, it would be more correct to say they have a compact pendulous habit. Blenheim Orange, whose only fault is that it is a long time in coming to the bearing state, makes a large tree, but its branches grow strong and upright; therefore by thinning them freely and trimming the lower ones only a slight shade would be given to the nuts beneath. This remark really applies to all strong growing kinds. Wyken Pippin is also a good dessert kind for January, which in some districts is considered almost equal to Cox's. It grows very upright—so much so, in fact, that I have usually considered it to be the weakest point about it. For a very late kind Sturmer Pippin is excellent. I also advise "Beginner" to plant trees of Beurré Clairgeau Pear. When grown in the open the fruits are not usually good for dessert, but they are splendid for stewing, and stewing Pears always sell readily. This variety grows very upright, comes into bearing quickly, and is a sure cropper.—H. D.

Do Bulbs Rest?

Yes; we all know they do. We see them apparently dry and looking, many of them, worthless and dead. This is their natural rest—they take a longer night's rest than human beings, but then their day is longer. This rest, however, is not the rest I am thinking about. Placed in a favourable position for growth, do they sometimes refuse to grow, but remain sound, and rest for a whole year? I think that occasionally both bulbs and tubers may do so. Writing of *Liliums*, I mentioned that a pot of *L. Harrisii* one year showed no signs of growth. Examined on several occasions by removing the top soil carefully without disturbing the roots, these bulbs appeared perfectly good, but all that year they remained dormant. The following autumn I turned the whole lot out, divided the bulbs, and repotted them, when they all grew and bloomed well. Generally I start my *Gladioli* in small pots in the greenhouse, planting them outside in May. Last year one refused to grow, but on examining the bulb, it appeared sound. The pot was thrust under one of the stands, occasionally giving a little water, but it never altered, and on several occasions, had my boy been at hand, I felt tempted to tell him to throw it away; to my surprise, this year it has started growth. I have at the present time two *Begonia* tubers which have thus far refused to start, and yet when I remove a bit of the skin, the tuber appears sound and healthy; the other is a seedling tuber of last year that did not bloom. All its companions, one or two no larger than a big pea, have started, but this tuber, which is nearly an inch across, makes no sign. Yet *Begonia* tubers, like Potatoes, will grow out of themselves even when wrapped away in dry paper. Several of mine, a year or two since, were wrapped in paper for later planting and forgotten, but in the course of a few weeks thrust themselves into notice by growing through the paper, making contortions to push through the points of least resistance. I have also this year a *Gloxinia* tuber that refuses to start, yet that, too, appears healthy. I shall watch these, but am disposed to let them get dry and rest.

In the case of *Liliums*, it is not always possible to say how a bulb will do, for you cannot pull the bulb to pieces. Its outer appearance may be favourable, but growth may be very weak, and the bulb fail. Still, even an unhealthy looking bulb should be given a chance. In repotting one *L. auratum* last autumn, I found one that I replanted, marking the label "shaky," and I fully expected it to die, but it threw up a good head and is now coming into bloom, whilst one that appeared sound has rotted away. A new bulb of *L. rubro-vittatum*, which appeared quite sound and was a fine bulb, commenced to grow, but had scarcely got its nose out of the ground before the leaves seemed to grow crossways and refused further growth. I have put this aside to dry, but feel rather less confidence in a bulb that has made an attempt and failed than in one that remained wholly quiescent.—Y. B. A. Z.

Gardeners' Education.

I had a reluctance to say anything in this matter till the positions of the gladiators became apparent. Now that this difficulty has been removed I venture my quota to the subject. Like many others, I felt, after reading "Domestic Working Gardener's" original contribution, the fountains of compassion overflowing with mingled sorrow, pity, and admiration. A strange enough mixture, but true. Whatever the writer's aims have been, I know not; nor do I see what remote benefit he could foresee would be derived from a declamatory tirade against what appears to be now beyond the hopes of rescue. He is, however, not a philosopher. His story is pitiable, but not exceptional. The world is full of cases such as his—good intentions and spasmodic resolutions fallen to the ground for the moment, before the fleeting pleasures, mayhap, of a passing butterfly. In the interval, time is lost and aspirations blunted till, alas! day has gone and night is lurking on the bleak horizon. "D. W. G." can claim along with his other qualities a bit of the cynic in his composition. His ability in presenting a fairly dismal picture of the art of gardening and all appertaining thereto, is certainly worthy of such a designation. His tintured views forcibly remind one of the many dark pictures of life so vividly depicted by the cynic's brush. The umbering is too strong, and the whole picture so irrepressively subjected to the powers of despair that he leaves little worth contending for in the whole realm of horticulture. The blight which he so strenuously labours to let fall with such ruthless severity, is so formidable that one cannot avoid thinking that he has more than ordinary reason to dispute with his circumstances. In such a case I am certain he has the sympathy of every man in the profession. Otherwise by parading his misfortune he is only giving clearer evidence of the incapacities which led to his maligned position. Gardening, in point of fact, is like most other operative trades and professions. It has its good and its bad sides. There are certainly instances where the head gardener is dignified with the honour of dispensing the duties of butler, coachman, pig-feeder, shoe-cleaner, &c., &c.; but these are rare berths, perhaps as difficult to get at as the few prizes widely distributed over the three kingdoms. I think "D. W. G." is confounding servility with deference. Many people do, and more is the pity. Every intelligent person ought to make no mistake in this matter, for it is a duty we owe to our superiors, and in due course reflects with interest on ourselves. I have never yet, in England or Scotland, met with a superior who showed the barest symptoms of servility in their conduct. No lady or gentleman would tolerate such imbecile relations. Again, I am convinced, long, long ago, that there is no royal road to success in anything worth having. That making the best of one's opportunities and talents is the only way to attain the summit of one's ambition. It is an egregious mistake to wait for the genius who never comes with the golden key to unlock the treasures of the world. The secret lies with ourselves. This is my own experience, and though I never possessed any extraordinary prize I always gained what I aimed for, and what more does anyone need? In gardening, as in all other trades, the success of one very much depends on the measures of shrewdness and tact a person incorporates in his duties. When these qualities are made still more acute with a liberal knowledge of men and things—call it education, if you like—the chances of a man so placed must be better than one differently situated. The no education argument is simply what I would expect from the man of the street. It is really too incongruous to elicit the least consideration. We have what are termed "stickit ministers" in Scotland; it is quite possible there may be "stickit gardeners" in the Empire, too. "D. W. G." from his own account would lead one to think such is the case.—ANTI-"LUCK."

I do not remember a more serious accusation brought against an honourable class of men such as gardeners undoubtedly are, than that of your correspondent, who signs himself "Another Unfortunate," on page 513 of your last issue. So far as my experience of head gardeners goes, it is exactly the reverse to that of "Another Unfortunate." I am acquainted with a great many head gardeners. Some have a large staff of subordinates to control, others few; but one and all have the same desire, viz., to do their duty both to employer and employés. I can speak more emphatically of my near neighbours, and say truthfully that not one of these makes a rule of seeing "how many days a week they can get away from their places." But I can say, and that with truth, that each one does his duty in an honourable way, and in many cases will be found at work while his subordinates are away enjoying themselves at cricket during the summer evenings. Speaking for myself, during the fourteen years I have been a head gardener, my days of absence from the gardens have not averaged fourteen days a year, including the annual short holiday allowed to me. I say annual, but, alas! it is not annual, because I am not always able to see my way clear to leave the gardens for a week's holiday, and much less to see how many days in each week I can be away. I am proud to say that this is not because I could not trust my young men to do

their several duties properly during my absence. They would do this, I am sure, and I am also sure that I am voicing the whole of the gardeners of these hills. But I hope that they will all come forward and contradict this statement. I fear that the upkeep of the stately Homes of England would soon crumble to pieces if the head gardeners' "whole desire" was to be away from his duties and leave them to their subordinates. I am sorry for "Unfortunate," not so much for his unfortunate position as for his dissatisfied spirit. My advice to him is to brace himself up and try and become an honourable head gardener, putting the present generation to shame if he can, by setting a better example. But first of all he must become a satisfied man.—THOMAS ARNOLD.

Points about Celery.

With reference to the sentence remarked upon by "S. E. H., Birkenhead," on page 454, I must at once say that it was written as the outcome of personal experience. I have no desire for a controversy with my kindly critic upon this subject of liquid manure for Celery, but having noticed that large, highly fed samples have a tendency to produce pithy stalks, the warning was written. Perhaps I had in my mind the man who tells you with much fervour two or three times a week, "My word! I have given 'em a tanking!" Still I cannot forget the results of my own practice and the fine "sticks" I have seen grown for market, in the culture of the latter very little manure of any kind having been used. There may be something in your correspondent's thumb and finger test of the plants at an early stage, though I must confess the idea is new to me. Years ago I found a marked difference between plants which had been highly fed with liquid manure and those having had a much smaller supply; the percentage of those having hollow stems being much lower amongst the latter. Perhaps some one can enlighten us as to the cause of the defect in the early stages spoken of by "S. E. H." It is only right to state that I think heavy feeding is but one of the causes of defective Celery.—J. W., Hopton Hall Gardens.

The Cornish Spade.

The note on this subject (p. 509) taken from the "Western Mercury" interested me, because I had previously thought of drawing attention to it. In Cornwall and parts of Devon the ordinary spade is, of course, not unknown in these days, but it is hardly ever seen, and is despised as much inferior to the tool of the country. This odd-shaped article to the eyes of gardeners or labourers in the home counties has a long handle just like that of a rake or hoe, to which the spade itself, exactly of the shape of the Ace of Spades, is fastened at an angle. I have no doubt that it is the primitive spade, and that (as suggested in the article referred to) the modern spade only came into use with the habit of wearing thick-soled boots. I expect that in very old pictures of husbandmen you would find this type of spade, with its pointed blade and long handle; and that from it, by an easy transition, was developed that barbarous implement the "breast plough," which is still to be seen in use (or was a few years ago) in small holdings in Oxfordshire. Now, adepts at the use of the Cornish spade are quite ready to defend it as superior to the modern type, and I have been much surprised to see what good work they can do with it. An educated gentleman told me he could not think how material could be put into a cart without the long-handled spade. In ditching and forming banks (the latter an important item in Cornish hand labour) the long-handled spade is used cleverly and easily, and with excellent effect; and in some forms of such work I believe it to be as good, if not better, than the more modern tool. In whatever work we are engaged, it is a pity when we have not the best implement for the purpose; and, if prejudice could be set aside, I think many a one, after seeing its deft use by an old hand, would add a Cornish spade to his stock for certain purposes. For ordinary garden work it cannot compare with the ordinary spade, but for ditching, banking, and road work it becomes, with practice, very useful.—W. R. RAILLEM.

Early Outdoor Sweet Peas.

Last week we received from Mr. F. J. Polkinghorne, gardener at Polywin, Bodmin, a nosegay composed of very large-flowered Sweet Peas, representing the varieties Dorothy Tennant, Salopian, and Stanley. Mr. Polkinghorne at the same time wrote that "the Sweet Pea blooms were gathered out of doors. The first lot were picked on May 21, and were very much better and fresher than those sent, as the storms we have had have blown them about considerably. The seeds were sown on July 7, 1901, and planted out early in October, 1901, and are now standing 6ft high. We are close to the sea, being only 15yds from high water mark."



The Victoria Regia at Regent's Park.

Mr. E. F. Hawes, head gardener at the Royal Botanic Garden, Regent's Park, London, writes as follows:—"The Victoria regia, growing here, opened its first bloom on Saturday, the 14th inst., nearly a month in advance of last year. A second flower will be open the end of this week. The plant at present has several leaves 5ft 6in in diameter."

Daisies.

At this season of the year the little Daisy attracts much attention, for it is by far the most conspicuous plant on most lawns. Very often they are the only subject fit for the villa plot. Many people in country places still think that by growing single Daisies in rich garden soil, double flowers are made. One would like to know if this has proved a sure method. There are double Daisies in shades of colour from light rose to dark red. But where are the singles? A large single Daisy with bright pink petals, another carmine coloured. Would not these be acceptable?—D. S. F.

Melon Fruits Ripening.

Plants with the fruits ripening must have a plentiful supply of air, and water should be withheld from the fruit. If the plants are strong, and there is a disposition to crack, in addition to withholding water from the Melons cut the growths carrying them half through a few inches below the fruit. A dry atmosphere is essential, and a temperature of 70deg to 75deg artificially, falling about 5deg at night. If the sun be powerful place a slight shade of some kind directly over the fruit, as the Melons ripening become heated, and do not mature nearly so regularly nor become so high in flavour as those that come on more gradually. Water need only be given to prevent flagging, and a slight shade from bright sun after a dull period is a much better way of preventing flagging than heavy waterings and a close or heated atmosphere.—A.

Picea pungens, or the Colorado Blue Spruce.

None of the evergreen trees has proved more popular for ornamental planting than this tree from the Rocky Mountains. It is of unquestioned hardiness, and is one of the coniferous species which seem to do well in about every location where it may be planted. Its growth is as strong and successful upon poor soils as upon the strongest. It is also valuable in locations where many other evergreens fail to thrive. Upon the eastern coast of New England it lives and thrives close to the edge of the ocean, and we have seen it growing in perfection where it was even covered at times by salt spray. One of the finest groups of specimens we have seen is at Quissett, near Falmouth, Mass., where young trees were planted in the natural soil upon the tops of rocks, and without the addition of manure or new soil. These trees were planted some years ago, and now form one of the finest groups of beautiful shaped trees that we have ever seen. Undoubtedly the colour of this Spruce is more or less affected by the soil in which it grows, and it seems to take on its best colours upon soils of granite formation. In other instances we have seen it entirely change its colour, from a dull green into a bright colour, after being well manured and cultivated. Many growers discard young trees of this Spruce because they do not show the blue colour; but it is best to give such trees careful cultivation, and then they subsequently favourably disappoint the grower by taking on a very distinct and glaucous hue. This tree, with its companion, concolor, is certainly one of the most valuable we have. The blue forms of concolor are very beautiful in appearance, the foliage being somewhat softer and more graceful than pungens, and it is quite a favourite with those who have grown it long enough to appreciate its good qualities.—("American Gardening.") [We can re-echo these words, and apply them to the growth of this tree in England and Scotland, where healthy young specimens are frequently to be met with.]

The Judas Tree.

A fine specimen of the Judas Tree (which takes its name from a tradition that it was on a branch of this tree Judas hanged himself), is in full blossom just now in the chaplain's garden of Dulwich College. Its branches are covered with a profusion of purplish-pink flowers, very much like the Almond, and as yet there are no leaves. There are not more than four specimens of the Judas Tree in England (says "The Westminster Gazette."). The one at Dulwich, covered with its triennial blossom, is very handsome, and attracts the notice of pedestrians.

Myosotis alpestris stricta Pink Gem.

This comparatively new form of Forget-me-not is worthy of more extended cultivation. Upon a recent visit to the gardens at Newton Hall, Chester, the residence of Miss Humberston, the head gardener, Mr. Wakefield, showed me a collection of Myosotis, all of which were very beautiful, but "Pink Gem" showed distinctive characteristics which immediately attracted attention. Here the plant attained a height of about 8in, beautifully compact in habit, with averaged sized blooms of a pleasing soft pink colour. Pink is a colour not too plentiful in spring-growing plants, and this fact should add to the value of this new form. A difficulty is sometimes experienced in getting good strains of Myosotis, but those at Newton Hall were all uniform both in habit and colour.—VISITOR.

Melon Fruits Swelling.

Add more soil to the ridges or hillocks. Let it be warm, moderately heavy, rather moist, and press it firmly. Give a thorough soaking of water when the fruit is the size of an egg, and follow in a day or two with liquid manure; then mulch lightly with horse droppings, exposed a few days in a shed, and turned over daily in order to sweeten the material. Water will be required about twice a week, or only once in dull weather. In narrow borders the waterings will need to be more frequent; in large borders, over fermenting material, it will not be required so often. Remove all fruit but three or four on a plant, also blossoms, and afford the needful supports. Stop or remove laterals freely, not great reductions at a time, but little and often, not allowing secondary tertiary growths to interfere with the principal. Syringe in the morning and in the afternoon not later than four o'clock, having the foliage dry before night, and sprinkle the floor about five or six o'clock with weak liquid manure, and give a little ventilation at the top of the house when looking round the last thing at night. This will save some trouble if air is not given early in the morning. On bright mornings commence ventilating about seven o'clock, at 75deg, and increase it with the advancing sun, keeping through the day at 80deg to 90deg with bright sun, and 80deg to 85deg with alternating gleams of sunshine and cloudy sky. Close at 80deg to 85deg, increasing to 90deg, 95deg, or more. Fire heat will only be necessary on cold nights and in dull weather, for it is essential to guard against a sluggish circulation of the sap and the attacks of fungoid pests.—G. A.

Incubation of Blackbirds and Thrushes.

There has recently appeared in one of the provincial dailies a considerable amount of correspondence anent the successive brooding of these birds in the same season. One party avers that the same nest only was used for the purpose indicated; the others, that successive new nests were built for a like purpose. There is, however, a modicum of truth in both assertions, but according to my own observations, when a pair of the birds incubate more than once during the same season they usually construct a new nest each time. I have also noticed that when a nest has been robbed of the eggs it has not been used for another "laying," probably owing to fear of the enemy. Regarding the prolificacy of the blackbird (*Turdus merula*), it is recorded in that interesting work on "Nests and Eggs of British Birds," by H. G. Adams, that in the year 1837, according to Mr. Blythe, a pair of these birds built four successive nests on an island in St. James' Park, London, and reared seventeen young ones. Surely the first and the last nests must have been respectively very early and very late, considering the time of building, incubation, and the feeding of the progeny for a considerable time even after leaving the nest. It is almost needless to add that several other kinds of birds also have more than one brood in the same season naturally.—W. G.



Rose E. V. Hermanos.

This is a Rose but little known, and yet is a most valuable addition to the sorts vigorous enough to be classed as climbers. It is a Tea-scented variety, and very sweet too. The colour is pearly rose with apricot shades, reminding one of that great beauty Comtesse de Nadaillac, not only in tints, but in the shape of its blossoms. It is a Rose that will be sure to give satisfaction, and now that the planting season is on this should be included amongst the choicest. Raised by Bernaix, and introduced in 1895, it really has not had time to prove its great merits, at least generally.—S.

Manure to Roses.

A mistake is often made in regard to manure used for Roses. More especially is this the case when they are newly planted. The manure is used in a state too green, and is likely to poison rather than benefit the roots. If ground cannot be prepared some months beforehand, and the manure had time to rot, I would not use any at all at planting time unless thoroughly decayed. At least, it should not touch the roots. I would keep it on the surface for a mulch, when the virtues would reach the Roses afterwards by the aid of rains. The idea that Roses must have manure is too widespread. The quality of the same is not so well understood. Deep dug, well manured, and well pulverised by time is different ground to that not thought about until it is time to put the Roses in. And it appears to me an error to put manure on Rose beds in winter. Light, strawy material to protect them is a different thing; but heavy manure like cow and pig tends to keep the surface of the earth cold, and therefore does harm. Besides, constant rains will wash away a great portion of its valuable parts without the Roses benefiting.

Manuring in spring and summer seems the better practice. It then keeps the earth moist and cool when these conditions are necessary, and the plants in their growing state can take in the food which manure gives. Roses like most kinds of manure; but that of the horse or pig is best for heavy ground, and cow for light earth.—H. S.

Liverpool Botanic Garden.

These gardens lately received much comment because of the magnificent spring floral display there to be seen. On entering the cool show house we were impressed by the gorgeous array of Cinerarias, Azalea mollis, Spiræas, Rhododendrons, Hyacinths, Tulips, and Lily of the Valley, which were tastefully arranged along the front of the house. These in themselves were well worthy of a visit, but there were other attractions, and along the front stages of the warmer houses were Dendrobiums in variety, some of the old nobile section carrying between two and three hundred blooms. This is highly creditable on the part of the curator (Mr. Guttridge) and his staff, considering that two years ago the same plants were all but destined to the rubbish heap. Cattleyas also helped to brighten and enrich the arrangement, used, as they were, in conjunction with Ferns and Grasses.

The chief attraction, however, a few weeks ago was the magnificent display of Hippeastrums, numbering about 300 plants, the majority of which were bearing two scapes, and a few even three. Fifteen flowers were noticed on many of the plants. A more gorgeous and attractive display it is impossible to conceive. In some establishments there may have been a collection of more choice varieties, but for a general display we should think the Liverpool set were unequalled. Three thousand flowers in all, which were arranged along both sides of the path, are something to look upon! The bulbs were raised from a few varieties bought in a little over three years ago, and were hybridised; and by the skill and persevering labours of those in charge the recent display was ensured.

Some were of the richest deep crimson and blood-red, others nearly white, or striped, mottled, and blended in a most effective manner with a combination of colours. The breadth of petal, size, substance, and perfect form of the flowers have been attained quite up to the expectations of Mr. Guttridge. One especially fine variety, the petals of which are edged white, splashed with crimson, and has a dark, rich centre, is quite distinct, and showed up to perfection. The display of Hippeastrums commenced in the first week in March, and continued till well into April, being followed afterwards by other choice subjects. Worthy of note is a house full of Regal Pelargoniums in the picture of health,

also some hundreds of well grown herbaceous Calceolarias, and yet another large batch of Gloxinias, all of which have been raised from seed selected in these gardens. All the choicest of stove plants, including Crotons (Codæums), which are required in large quantities for municipal functions, are also grown.

That most popular of all Begonias, Gloire de Lorraine, has only recently passed out of flower, and scores of plants are being prepared for propagation, which in due course we shall see in bloom. The genial curator is ably assisted by Mr. Sherry, and both are to be congratulated on the marked improvements which are recognised on every hand, and which is a source of pleasure and instruction to the fraternity in Liverpool and district.—J. S.

Literature.

Clouds and Weather Signs.¹

This is an essay by a trained and much experienced observer on a subject of exceedingly great importance to farmers, gardeners, and many others. We read the article with unusual interest and attention when it appeared in "Knowledge," and we commend it in its present form to every rural inhabitant whose work the weather so largely helps or hinders. The various forms of clouds, their varieties and sub-varieties and the weather they invariably indicate, are described and beautifully illustrated here.

Injurious and Useful Insects.²

A thoroughly useful book of 256 pages, and will serve as an introduction to the study of economic entomology. Types of the various orders of insects are here selected, and these are fully discussed, with the aid of illustrations. The lessons are practical; that is to say, given a subject such as a cockroach, a hive-bee, or a Cabbage butterfly, the user of the book is asked to observe the parts of these insects, both external and internal. By carefully following out the types the reader will thenceforth have a quickened interest in regard to insects, and as all of those treated of are just the kinds a gardener should understand, it would be wise for the uninitiated to add this book to their libraries. The chapter on the history of the hive-bee is very enjoyable, and though the book is one for use, the general reader will discover in the story of insect life much that may hitherto have been unthought of.

Pictorial Practical Vegetable Growing.³

Readers of this Journal have had the opportunity to consider our opinion of Mr. Walter P. Wright's series of pictorial practical gardening books, of which this is the fifth. We have a high conception of the utility of all of them, and the vegetable book is as good as those we have previously noticed and commended in these columns. They are principally intended to teach cottagers, amateurs, and young gardeners the complete routine work in that section of horticulture which they deal with, and it is not the author's fault if they do not make matters thoroughly clear. All the vegetables have each a chapter, and there are others on diseases, pests, lifting and storing, cropping, exhibiting, &c.

Gardening for Beginners.⁴

When the first edition of this contribution to the "Country Life" Library appeared exactly one year ago, we said then that it was one of the best books we had had placed before us, and that it seemed to us as complete as the beginner in gardening could wish it to be. Our opinion of its merits are correct, as evidenced by the appearance of a second impression. Additions and corrections have been made, while the illustrations, the printing, and general get-up are stamped with the unviolable excellence of the "Country Life" press. An important addition to the new issue is the list of English names for wild and garden flowers, which will prove a great boon to beginners. "Gardening Terms Explained," is the title of another new chapter, and again "Odds and Ends"—useful paragraphs of varied information—was not included, we believe, in edition one. In conclusion, the book is again commended to the amateurs and young gardeners, and they will find good advice on all phases of gardening. It includes 560 pages of letterpress with illustrations, and has a complete index.

1. "Clouds and Weather Signs," by Commander D. Wilson-Barker, R.N.R., illustrated with original photographs. London: Office of "Knowledge," 326, High Holborn, W.C. 1/.

2. "Injurious and Useful Insects," by L. C. Miall, F.R.S. London: Geo. Bell and Son, 1902. 3/6.

3. "Pictorial Practical Vegetable Growing," by Walter P. Wright. With nearly one hundred illustrations. Cassell & Co., Ltd., London, Paris, New York, and Melbourne. Price 1/., or in cloth, 1/6.

4. "Gardening for Beginners," by E. T. Cook (second edition). Geo. Newnes, Ltd., Southampton Street, London, and "Country Life" Office, Tavistock Street, Covent Garden. Price 10/6 net.

British Columbia.

At the present time capital and enterprise are seeking out every corner of the world where there are available openings. Especially are British capital and enterprise going everywhere. Climatic conditions, no matter how adverse, do not deter them. The lack of settled government and the presence of unfriendly native tribes are alike unable to keep them back. All they seem to ask is that there is a reasonable chance of profit. Risk does not count. When we see what is done in other parts of the world, we sometimes think that if British Columbia were more difficult of access, if deadly diseases haunted our coasts, if hostile natives swarmed along our rivers, if a merciless climate rendered life here scarcely endurable, British enterprise would be more attracted in this direction. The spice of danger, the element of romance, would attract the descendants of the adventurers of Elizabeth's day. But conditions here are prosaic. The country is easily reached. It is one of the healthiest regions on earth. There are no hostile natives. The climate is in many parts ideal, and nowhere too severe for comfortable living. The seeker after wealth does not have to array himself in the paraphernalia of war and carry with him an arsenal as well as a banking account. It is simply a splendid country to live in, with a settled government under the British flag, where life and property are as safe as in the heart of the Empire itself. It does not lend itself to blood-curdling magazine stories, and the illustrated press finds no sensations here. There are no "natives" with imaginary trade possibilities concealed about their otherwise naked persons. Hence it does not attract the attention that less favoured parts of the world do. To many persons it seems unreasonable that a part of the globe, so rich in natural wealth and so blest climatically as British Columbia should remain unoccupied. Such people do not take account of the vastness of North America nor of the comparatively recent date within which the potentialities of this Province became known. Under these circumstances, we suggest that all who are interested in the future of this Province should engage, to the best of their ability, in a campaign of education. It is with this object that the series of articles, of which this is the first, will be published. There will necessarily be stated in them many things which are familiar to many readers, but, perhaps even the best informed among the latter will not object on this account, but on the contrary, will follow what is said, and when they can will add what of interest may occur to them. We hope to point out the way of making the Province better known, trusting that others better equipped for the work will give us their hearty co-operation in a labour which, to be well done, will call for much research, and which no single individual can hope to do thoroughly. The area of British Columbia is approximately 400,000 square miles. The latest official statement on the subject is as follows:—"The total area of British Columbia is about 382,000 square miles, of which 285,000 square miles are estimated to be wooded." A very large portion of the mainland and many of the Islands have not been surveyed, so that an accurate statement of the area is impossible. For purposes of comparison, we may take it to be the figure first stated, namely 400,000 square miles. The area of the British Isles is 121,483 square miles, that of Germany is 208,738 square miles, that of France 207,801 square miles, and that of Spain 197,000 square miles. From its south-eastern corner, near the Kootenay Pass, to the north-western corner near Mount St. Elias, the distance is 1,250 miles, or as far as from John o'Groat's House to Madrid, or from London to St. Petersburg, air lines being taken in each case.

British Columbia lies between the 49th and 60th parallels of north latitude, with the exception of the southern portion of Vancouver Island, which extends to within twenty miles of the 48th parallel. In this connection it may be mentioned that Victoria, the capital of the Province, lies twenty minutes south of the latitude of Paris, and Bennett, the most northerly town in the Province, is in the latitude of St. Petersburg. Between these latitudes in Europe the greatest material and intellectual progress of mankind has taken place, and in point of natural wealth, and all the other elements which go to make greatness and prosperity possible, British Columbia is at least equally well endowed with the corresponding portion of Europe. What it may lack in one respect it makes up in others. We do not wish to push the comparison too far, and must not be understood as claiming that this Province is ever likely to sustain as great a population per square mile as is crowded into Central Europe. The point which we wish to make is that British Columbia is all within habitable latitudes, and those in which men are at their

best. This is a consideration of the greatest importance when the geographical position of the Province as regards Asia and the British Empire generally is taken into account, for it shows that here may be built up a British community of the highest type, and that here the greatest triumphs of civilisation are possible. Roughly speaking, the Province may be divided into three great parts, viz., the Dry Belt, or Upper Mainland, by which is meant that part to the eastward of the Coast Range; the Lower Mainland, being that part between the Coast Range and the Sea; and the Islands, viz., Vancouver, Queen Charlotte, and the Gulf Islands.

The general appearance of the Upper Mainland part of the Province would indicate that at some remote period it was covered with water; in fact, a large lake, and with the subsidence of the water, by reason of the cutting through of the mountain ranges by such rivers as the Fraser and Columbia, the country was left in what is known as benches, that is, level prairie land running back in successive stages until the foot-hills are reached. This is strikingly illustrated in the upper reaches of the Fraser and of the Columbia, where, starting from the river level, which may here be likened to a deep ditch with sloping sides, the first bench is reached after a climb of perhaps 200ft. This bench may run back for a mile, or thereabouts, when another bank is encountered, running still further towards the foot-hills, and so on. These bench lands are nearly all of the same nature, being either a sandy, clayey, or a mixture of both, alluvial deposit, for the most part of extraordinary fertility, when moisture is in sufficient quantity. The general altitude of the lower bench lands is from 1,000ft to 1,200ft. On these benches most of the ordinary productions of the temperate zone can be successfully cultivated, but as the altitude increases, so is the possible range of production circumscribed, until when the highest points are reached the production of live stock is alone possible.

British Columbia, although not, strictly speaking, an agricultural country, has nevertheless large areas of arable land of great fertility, and capable of producing much more than is required of its present or prospective population. The mining and other industries in the earlier history of the Province so completely occupied the attention of its inhabitants that British Columbia came to be considered by them, and naturally by outsiders, as a country quite unfit for agricultural pursuits; and so much was this the case, that when the subject of Confederation was first mooted, not only was British Columbia designated by one of the leading statesmen of the East as "A Sea of Mountains," but it was actually looked upon as utterly worthless, "the derelict of Canada," by many people who should and perhaps did know better; and even after the wonderful resources of the Western Province had developed to such an extent as to wring the acknowledgment of its richness from its detractors, the belief still existed, and does exist among many, that although rich in minerals, timber, fish, and coal, there is not agricultural land sufficiently extensive or good in the Province to produce enough to feed its own inhabitants, to say nothing of the possibility of its production ever reaching such a point as to contemplate exportation outside its confines.

On account of its topography and extent, ranging as it does from the 49th to the 60th degrees of latitude, and intersected as it is by immense mountain ranges, with the warm Japan current setting over to its shores, it may easily be understood that the climate of British Columbia is varied in its character, that its products, as a natural sequence, are also very varied, embracing those of the semi-tropical as well as of the temperate zones. The Apple, par excellence, is the fruit of the country, which with the Pear, Plum, Prune, Cherry, and all small fruits, attains great perfection in most of the settled portions of the Province. Peaches, Apricots, Nectarines, Grapes, and such fruits, are naturally not so wide in their distribution, but are successfully cultivated in many parts of the southern portions of the Province. Melons, Tomatoes, Chili Peppers, Egg Plant, and all vegetables of this character, are also grown to perfection in many parts. In the matter of Nuts—Almonds, Walnuts, Filberts, Hazelnuts, Cobnuts, Chestnuts, &c.—these produce well wherever grown. It is impossible at the present writing to give any statistical information, even of the approximate character, of the number and kinds of orchards in the Province, nor the amount of fruit produced. This may be said, however, that whereas a few years ago most of the fruit consumed was imported from the neighbouring States and California, now most of the fruits coming to the Province from these sources are early fruits, which come before the home production is ready for the market.

The exportation of fruit, likewise, to the North-West Provinces and the Yukon is assuming large proportions, and the quantity is increasing year by year, as the young orchards which have been set out come into bearing. The area under fruit has been increased greatly during the last five or six years, and people generally are adopting methods more in accord-

ance with the well-understood successful principles of fruit culture, profiting by the lessons gained by experience and avoiding the mistakes which are generally made by beginners. Although the area under Prunes is quite extensive, the orchards are quite young, and since a ready sale has been found for the green fruit, none has, so far, been cured. The production of Wheat in a country where the area of cultivated land is comparatively limited, and where it can be put to much more profitable use, is, as a matter of course, not prosecuted to any great extent; still, large quantities are produced in what is known as the Upper Country or Dry Belt, and a considerable quantity of the flour used in the province is manufactured from Wheat grown in the Okanagan country. Irrigation is practised in the Upper Country, and available water is fairly abundant for the purpose except in certain localities; in the other portions of the Province irrigation is not necessary, the rainfall being sufficient. It is needless to say that, under the conditions named,

and it is of the utmost importance that intending orchardists should bear this in mind, and before planting out an orchard they should ascertain from the Department of Agriculture what particular kinds of fruit suit the locality in which they propose to establish themselves. All the best known and favourite English and American varieties of Apples, and some of the hardy Russian varieties, do well in one section or another of the Province; and this is true of the other fruits, and it is only by experience that the knowledge has been attained as to the best varieties for the different parts. Peaches, Apricots, Nectarines, Grapes, and such fruits, although succeeding well where their cultivation has been attempted, have not so far been produced in quantities sufficient for commercial purposes. Agricultural labourers, Whites, Indians, Chinese, and Japanese are to be had at rates ranging from 2 dol per day, and even higher for the best skilled labour, to 1 dol and board for the lowest.

The foregoing facts are extracted from the descriptive



Vicinity of Victoria, Vancouver Island, Olympian Range in distance.

all the other grains, roots, and vegetables ordinarily grown in these latitudes attain the greatest perfection, and the production is in many cases above the average.

Such fruits as Apples, Pears, Plums, Prunes, and Cherries are all grown in abundance, but still not in sufficient quantities as yet to supply the demands of the markets which particularly belong to the Province, viz., Manitoba, the North-West Territories, and the northern mines. The young orchards which are coming into bearing, however, will in a few years considerably alter the complexion of affairs as regards production; nevertheless, as the demand is steadily increasing in the markets named, and as the markets of China and Japan are opened up for such products, there need be no fear of over-production, and so long as the fruit is of good quality and it is packed as it should be for the market, so long will the production of fruits be a profitable industry in the province.

Owing to the topography and climatic conditions of a country like British Columbia, it is but reasonable to expect that all the varieties of fruit named do not succeed equally well in every part,

pamphlet entitled "British Columbia and its Agricultural Capabilities," issued by the Department of Agriculture of that great Province in the Dominion of Canada. Our illustrations of Victoria, the capital, which is situated at the southern extremity of Vancouver Island, and dominates the Juan de Fuca Strait and Puget's Sound, and of an Apple orchard at Coldstream, B.C., are from the same source. The spirit of Imperialism finds a generating centre in the heart and mind even of an horticultural editor, and while the sample of a Columbian Apple orchard (p. 539) is peculiarly appropriate after the prolonged discussion in our columns on the question of the home supply of fruit, the other (p. 537) is no less opportune at the moment when the eyes of Great Britain are scanning with a quickened interest the English colonies of fruitful promise in all regions over the seas. There are still many of England's sons and daughters desirous and ready to venture to new homes abroad, and to the agricultural and horticultural communities especially our notes on the colony of British Columbia may prove of service and accelerate action.

NOTES & NOTICES

The Coronation Rose Show.

By the kindness of the Rt. Hon. the Earl of Ilchester, and to benefit the National Horticultural Charities, viz., the Gardeners' Royal Benevolent Institution (founded 1838), and the Royal Gardeners' Orphan Fund (founded 1887), visitors to the Coronation Rose Show on June 24 will be enabled to inspect the beautiful gardens and pleasure grounds at Holland House between 1 and 7 p.m., on payment of not less than one shilling.

Australian Raspberries.

The first consignment of Raspberries for jam-making from Australia has been condemned on arrival at Liverpool. Defective packing was the explanation given at the meeting of the Health Committee. The fruit broke loose when at sea, and eleven tons had to be destroyed. The hope was expressed that the failure of their first venture would not deter the Colonists from exporting this fruit.

A Horticultural Trade Code.

A correspondent living at Enfield sent to us some time ago a code, invented by himself, by the use of which he claims to save considerably on telegrams and cablegrams. It has long been felt by the greater part of the trade that something of this kind was a great desideratum, and would, if carefully compiled to meet the requirements of the different branches of the trade, inevitably prove itself to be of the greatest use. The annual expenditure for the transmission by "telegraph" of ordinary business matter is a serious and ever increasing item, and to many firms the ramifications of whose business are of a world wide reputation, and who have therefore constant trade intercourse with Continental and Transatlantic houses, "The Horticultural Trade Code" will be the means of enabling them to effect a very considerable reduction of expenses. The idea of the invention is to provide one word which will stand for a whole commercial sentence conveying an order. The code can only be understood, however, by seeing a specimen page, and application should be made at Chase Side, Enfield.

Flower Show, Rose Exhibition, and Conference.

The Royal Horticultural Society's great exhibition of Roses and other flowers will be held at Holland House, Kensington, by kind permission of the Earl of Ilchester, on June 24 and 25. This meeting will take the place of one of the ordinary fortnightly shows at the Drill Hall, but will in all essentials be conducted on the same lines as the annual shows at the Temple. All classes of plants, flowers, and fruits may be exhibited, but no Roses may be included in any miscellaneous or mixed group. Roses can only be shown under the schedule. Single plants for Certificate may be entered at the secretary's tent on the morning of the 24th before 10.30 a.m. An official catalogue of this show will be issued and distributed gratis among the visitors. It will comprise a short historical sketch of the Royal Horticultural Society, particulars of the proposed new Horticultural Hall, schedule of Rose prizes, the names and addresses of all the exhibitors of other plants, &c., with the nature of their exhibits, together with programme of the music to be performed each day by the band of His Majesty's Royal Horse Guards (Blues). The judges will meet at the secretary's tent at 10.30 a.m. on June 24, at which hour punctually the tents will be cleared of all the exhibitors and their assistants. The Fruit, Floral, and Orchid Committees will assemble at the secretary's tent at 11 o'clock sharp. The conference on "Roses and their Cultivation" will be held at 2.30 p.m., and will be open to all Fellows and visitors. The exhibition will be open to Fellows (showing their tickets) and to others showing Fellows' transferable tickets at 12.30 p.m. on Tuesday, closing at 8 p.m., and at 9.30 a.m. on Wednesday, closing at 6 p.m. The public will be admitted by payment at 2 p.m. on the 24th, and at 9.30 a.m. on the 25th. The only entrance to the show will be by the great iron gates in Kensington High Street, and the only exit will be by a gate leading into Melbury Road, where carriages may be ordered to wait.

William Bull & Sons.

This is the new title (see front advertisement page) that the sons of the late Mr. William Bull, 536, King's Road, Chelsea, S.W., will henceforward trade under at the old address given in this note.

Shirley (Southampton) Gardeners.

Mr. Jas. Miles, Secretary of the Shirley and Surrounding Districts Gardeners' Mutual Improvement Association, recently contributed a report of Mr. Richard Dean's lecture there. This lecture was on the subject, "Floriculture and Floriculturists over Fifty Years," of which a somewhat extended report appeared in our issues for May 29, page 467, and June 12, page 518.

Glasgow Notes.

Tree-planting goes on merrily in the out-lying districts, where the red-stone buildings, with the stained glass and the vestibule doors, flourish exceedingly, and the famous Barrington Drive forest has now a number of rivals. In Partickhill, for example, there is a Dudley Drive, where the green branches wave in the wind, and "everything in the garden is lovely." They do not as yet, of course, suggest Cedars of Lebanon, but some time in the future they may do so—unless the Barrington Drive people steal along in the dead of night and pull them up.

Royal Horticultural Society.

At a general meeting of the Royal Horticultural Society held on Tuesday, June 10, one hundred and sixty-four new Fellows were elected, amongst them being the Countess Roberts, the Countess of Selborne, the Countess of Donoughmore, the Countess Lewenhaupt, Viscountess Galway, Lady Ardilaun, Lady Lechmere, Lady Jane Trefusis, Lady Gwendoline Cecil, Lady Fitzroy, Lady Jekyll, Sir Theophilus Peel, Bart., Sir G. L. Molesworth, and the Dowager Lady Southampton, making a total of 752 elected since the beginning of the present year.

Coronation Rose Show.

The Royal Horticultural Society's great Rose Show will be held on June 24 and 25 at Holland House, Kensington, and the following are the ways of reaching it:—Kensington High Street is the nearest station on the Metropolitan and District Railways from Liverpool Street, King's Cross, St. Pancras, Euston, Paddington, Cannon Street, Charing Cross, and Victoria; Addison Road is the nearest from Waterloo, Clapham Junction, Willesden, and Richmond; Earl's Court is nearest from Wimbledon, Putney, Fulham, Acton, Ealing, and Windsor. Those who prefer the Central London Electric should stop at Notting Hill Gate; from thence omnibuses pass the gates. All Hammersmith and Turnham Green omnibuses pass the gates, and are available from Liverpool Street, Bank, King's Cross, St. Pancras, Euston, Charing Cross, and Hammersmith.

The Weather in Ireland.

I am watching the Journal for recent issues to see what your correspondents have to say of the recent continuously abnormal weather. In the south of Ireland we generally have a higher temperature than the English average, but for several weeks past the thermometer seldom reached 60deg Fahr., night or day. Recent weather reports state there has been frost, with a thin coating of ice, in Lancashire. We have had nothing, however, quite so bad in the Emerald Isle. Other seasons I have been digging early Ashleaf Potatoes ten days previous to Midsummer Day, but on this occasion they will not be in blossom. All other garden crops, and, I may add, field crops, are equally backward. Fruit trees, probably from the same cause (Apples and Victoria Plums excepted), have shed an unusual number of the promised crop, while the young growths have got crisped up, curled, and when examined, are found covered with green, black, or reddish coloured flies. The black flies on Early Rivers, Elton and Bigarreau Cherries (the fruits and the shoots) are unusually prevalent. I find it good practice where these growths are not wanted, to clip them off. This increases the size of the fruits. Roses and Rose foliage show badly, and Tomatoes, indoor and out, have simply stood still for a month. Fewer birds of passage, such as the cuckoo, swallow, quail, &c., seem to have visited us, and their well-known notes are seldomer heard. I have caught one queen wasp in my greenhouse, and that is all I saw this year. The same scarcity of the friendly honey bee is observable. Otherwise, the country looks green and lovely.—W. J. MURPHY, Clonmel.

Forestry Round the Wells.

"God made the country and man made the town," says the Poet Cowper. Kent as a county minus the portions contiguous to the Metropolis, possesses in large measure her Godlike attributes. With no manufactures to mar her visage or defile her atmosphere, the land smiles with green pastures, sylvan woods, and the busy industry of her Hop gardens. Whether this state of things is destined to last indefinitely must at the present moment be doubted and regarded with fear by the devotee of her rarely beautiful countryside, considering the possibility of considerable portions being disfigured by operations for the hidden black diamond and all its concomitant accessories and results. At the present time probably this little corner of Britain has never in its whole history presented so enchanting an aspect. Hill and dale, copse and common, beacon or plain, mead or moor, and all in a comparatively small compass—surely

might say, within a stone's throw, in certain directions, you find yourself in neighbouring Sussex. Standing, let us say, upon Rusthall Common, and within a mile of the famous Pantiles, at an altitude of some 450ft, you are in a position to see far and near over both counties, and to revel at will with your gaze alike over the glorious woods, the quiet glades, the placid seeming weald, various points of vantage or especial landmarks such as Crowborough Beacon or the distant plum-coloured Downs. Truly in such a spot and with such surroundings one cannot help thinking that the devoted lover of modern Babylon would have changed his mind and exchanged his taste, "the sweet shady side of Pall Mall," for this "exquisite spot near the Wells to dwell." Indeed, methinks one might be pardoned if we apply those words of Dr. Boteler about the Strawberry, "Doubtless God might have made a better berry, but doubtless God never did."

But it is to the forestry of this district that we are more especially to direct our attention. And exceedingly varied it is whether studied as timber, undergrowth, or ornamental and garden specimens. Sylvan Kent! This in truth is her first and



An Apple Orchard in British Columbia.

such variety and in so graceful forms exists nowhere else. Of the many charms presented by the Gorse and Heath covered commons about and in the immediate vicinity of The Wells, dotted here and there, now singly, and now in clumps with the slender silver Birch, I can but allude to in passing; neither can I treat of the gorgeous displays of the spring and early summer flora to be found in every hedgerow and wood broadcast throughout the land. And verily nothing is more sweet to the senses or more soothing to the sight than our common English wild flowers, such carpets of Primroses and Anemones, and so gorgeous a wealth of the blue Hyacinth and purple Orchid can hardly be equalled and certainly not surpassed in any other country under the sun. Indeed, given an early spring, with the diverse tints and peculiar freshness of the woodland growths, and more particularly of the Oak, combined with the transparent and varied views, and I think the "uncertain glory of an April day" is almost the climax of perfection in Kentish scenery.

The landscape under these aspects is so enchantingly lovely, the foliage so grateful to the eye, and the flora so fragrant to the scent, that nothing indeed seems left to be desired to complete this earthly paradise. And yet one cannot in fairness give all the kudos to Kent, for within a very few miles, almost, one

more beautiful feature; her special glory lies in her woodlands. And of these her chief products may be summed up in four words, Oak, Ash, Beech, and Pine. Many others, of course, there are, and of some in plenty. Thus the graceful airy willowy Birch, with its dreamy drooping habit, is in this district immediately under discussion very plentiful and everywhere in evidence, whether by roadside, in the forest, or on heath and common. There is, too, a fair quantum of the Surrey weed, the Elm, also Poplars, Acacias, and Maple, with occasional Horse and Sweet Chestnuts, and a good many Cedars and Firs, Spruce or Scotch, in parkland and garden grounds. Yet for the most part the said four trees may be reckoned as representing the chief arboreal growths of the soil of at any rate this particular portion of Kent. These, then, may be considered as the county's staple woods at the present day. The Ash, of course, is almost entirely grown in copses, and cut down periodically right to its base to afford poles for the annual Hop crop, and thus possesses a very important and extensive use and value. Many of the Pinewoods are in a limited sense small forests. Some of those on the Eridge estates of the Abergavenny family are of remarkably fine proportions, clean in growth and of great height. On this wide property as also on the Bayham Abbey lands of the Marquis

Camden, I was much struck by the magnificence of the Beeches. However, everywhere around the Wells, in whichever direction you wend your way, it is impossible not to note these grand and elegant denizens of the forest, and their remarkable height; indeed, the latter trait astonishes one the most, perhaps. In close proximity to many a fine specimen of Beech may frequently be noticed some grand monster Oak, as if bidding for a comparison of its charms in friendly rivalry, but, as sings the minstrel:

Each gives each a double charm,
As pearls upon an Ethiop's arm.

And in very sooth these "green-robed senators of mighty woods," when seen in their first spring freshness, are perfect models of power, symmetry, and beauty. Very large numbers of this essentially English tree of indigenous growth may all around this district be seen, and the value of many estates where they seem to be peculiarly flourishing must of consequence be very largely enhanced by their presence.

In closing I cannot refrain from the mention of a six hundred year old Kentish rectory in the Sevenoaks neighbourhood, where amongst much that was beautiful and picturesque in the fine old grounds sloping gradually from the little shingle steeped church in the peaceful God's acre, far from gay cities and the ways of men, to the curious old rambling house, made up of half a dozen styles of architecture and more, I was much impressed by a colossal Cedar of Lebanon on the lawn, of mighty girth and towering height. Though there was timber in plenty all round of fine proportions and elegant contours, I could not help thinking, as I gazed at the far-spreading giant before me, of those words of Pope:

I am his Highness' dog at Kew,
Pray tell me, sir, whose dog are you.

The mammoth seemed to be vaunting some such words as these in its pride at belonging to the Rector and overtopping all else with its embracing limbs. As regards age, however, I regret to say our friend was an impostor. No one would have put him down at less than that of the rectory itself, yet I was credibly informed descendants of bygone villagers knew it to be no more than a hundred years ago, that as a small stripling it was brought over from Palestine to begin its guardian vigil over the manse. Truly, however, it had made the most of its time. I had the curiosity to measure its circumference, and found it to be about 24ft round at the extreme base, while one of its lateral branches was no less than 54ft in length. The height was a very considerable one, but I had no means of finding the true span. How these measurements compare with other Cedars in England I know not, but I am inclined to think our centenarian will take some beating.—J. A. CARNEGIE-CHEALES.

Figs under Glass.

After the first crops from early forced trees are gathered, generous treatment will be needed to enable the trees to swell the second crop. Syringing twice a day is needful to keep the trees free from red spider, though that is hardly possible in early forcing; but a little sulphur on the hot-water pipes is a great deterrent of this pest and "spot-fungus." If an insecticide be used, it must be such as will not injure or discolour the fruit, which is easily done by a corrosive substance, or even rubbing with the hand or clothes. Afford liquid manure when watering is necessary, trees in pots requiring it daily, sometimes twice a day, and trees in borders once or twice a week, according to the extent of the rooting area. The second crop should be thinned when the size of Hazel nuts, always before they are the size of Walnuts, and in thinning reserve the largest at the base of the shoots. Top-dress trees in pots with rich material, supplying a little chemical manure occasionally; planted out trees mulch with short, sweet, lumpy, partially decayed manure, about an inch thick, and renew from time to time, so as to maintain that thickness.

Succession Houses.

When the fruit commences to ripen a free circulation of air must be afforded, and it should be warm, as cold air moisture settles on the fruit, and may cause decay or result in cracking or "spot." Attend to tying-in and regulating the shoots by thinning and stopping, so as to afford the fruit the benefit of all the light practicable. The moisture in the atmosphere will need to be moderated, not wetting the fruit, though if red spider attacks the trees the fruit should be picked rather closely and a good syringing given, which will not injure the remaining fruit, provided it is done early on a fine day, so that the moisture does not remain long on them. Do not allow any lack of water at the roots, yet guard against excessive moisture in the soil by affording lessened supplies than when the fruits are swelling.

Young Trees in Pots.

The trees for next year's early forcing must not be neglected in any cultural essential, or disappointment will be the consequence. They must have all the light possible, and be kept as near the glass as practicable without touching, so as to secure sturdy, well ripened growths, keeping these clean by syringing and the application of an insecticide if necessary, and affording liquid manure to afford a stout growth. Suckers must be removed. When the growth is completed the trees may be stood outdoors in a sunny place to induce rest, but the wood must be well ripened previously, and the sooner the better for early forcing. If any fruit shows it should be removed. This will not prejudice, but favour, the formation of bud Figs in embryo for producing the first and most valuable crop another season.—GROWER.

Notes on Hardy Flowers.

The new *Fritillaria tuntasia* has, I believe, made its appearance at the Drill Hall this season for the first time, though, less favoured than *F. askhabadensis*, it was not honoured with an award. This is not surprising, as a casual glance does not give one a powerful impression of its merits in the garden. The flowers are a rather glossy black-brown on the outside, and are thus far from fascinating. Like many other *Fritillarias*, however, they have beauties which are withheld from those who do not examine them more carefully, for the inside of the flower is its strong point. It is of a warm, deep, chestnut brown, perfectly velvety in appearance, and set off by the bright yellow of its reproductive organs. This *Fritillaria* was one of the earliest to appear here, and it had to withstand the hardest frost of the past winter when in bud, and almost at its full height of about a foot. Much to my surprise, it was uninjured, and came into bloom in March unharmed. My specimen came to me last year from Herr Max Leichtlin, but I am at present without particulars of its native habitats.

Geum montanum.

This old border or rockery plant is very attractive as I write, and looks well at the base of the rockeries, or in the border, with its prettily formed leaves and bright, golden-yellow flowers. I look upon it as one of the most easily grown of a genus which does not present many difficulties to the gardener, as it will flourish well in almost any soil, and either in full sun or in comparatively deep shade, although I should not plant it under the drip of trees. Yet I have known it to be lost in good gardens, a fact which I attribute to want of top-dressing, and from the hard stem or stock of the plant thus becoming too much exposed. It can stand a fair amount of dry weather when this is beneath the surface, but the plant rapidly deteriorates if top-dressing is long neglected. While it can thus stand drought, it likes a fair amount of moisture, and has a preference for a moist, peaty soil. There is a large flowered form called major or grandiflorum, and with the suffix of aurantiacum, a hybrid plant with orange-coloured flowers, which comes from this species, and *G. Heldreichi*, is procurable. The typical *G. montanum* grows from 6in to 12in high.

Anemone Pulsatilla.

While to those who are on chalky soils this old Pasque Flower is one of the easiest possible things to grow, it is different with those who have a garden with but little calcareous matter in it, and who, moreover, have a moist climate, which *A. Pulsatilla*, like many other pubescent plants, dislikes. It is so pretty in all its forms that it ought to have a place in all gardens, especially the white variety, which is an acquisition worth securing. There is not much difficulty in giving it some old mortar or lime rubbish to suit its tastes for calcareous soil, but the matter of overhead moisture, in very wet places, is more difficult to deal with, and is best secured by covering the plant with glass for a little while in spring after it appears, and also later in the year. It is not impossible, however, to pick for it a dry place in the garden; and I find that in the garden in front of my house, which is drier than the remainder owing to the house stopping a good deal of the rain which comes from the west, these silvery or hairy leaved things do better than elsewhere. This *Anemone* is among the number, and while I have frequently lost it elsewhere, it proves quite long-lived and free flowering on dry rockwork in this part of the garden. Nor does it require much lime or chalk there, which points to what one finds in many things that the chalk secures greater dryness by absorbing a considerable amount of the rainfall, which the plant might otherwise resent. If we look upon these provisions of wool, hair, or tomentum as provisions to withstand drought or cold, as they usually are, we shall help ourselves in the study of cultural points in connection with the treatment of many plants.—S. ARNOTT.

On Fruit.

Doubtless Mr. Willis' detailed hints on fruit growing and keeping will be found valuable by many of your readers, and I quite agree with him that thinning fruit pays well. This is one of the reasons, of course, why bush or pyramid-trained trees are preferable to standard form, as the fruit grown on the latter is beyond convenient reach in most gardens. Thinning, however, is in general one of those neglected practices that account for the heavy foreign supplies of good fruit, on which more attention is bestowed than at home. As Mr. Willis not infrequently gives advice on the subject of fertilisers through horticultural publications, it has occurred to me to draw attention to another point of view to, as far as I know, his own in relation to colouring of Apples, to which he makes reference on page 466. He says no colouring or other organic matter enters the fruit after it is full grown. It is the colouring which I wish to refer to.

We have had the usual shows of Apples at the Crystal Palace in the autumn for years, and I have noticed in this connection that every now and then a season produces a "green" show, that is, want of colouring is conspicuous, and the reports on the subject appearing in horticultural papers give expression to the

apart from the fact that leguminous vegetation should not be in want of artificials like nitrate of soda. I read, however, of satisfaction expressed with the results of the application of nitrate of soda for early pickings, but that it is a waste for late pickings. Of course it is, as then the sun's heat produces nitrates in sufficiency, and no benefit is experienced from artificials.

Mr. Willis might be able to draw on his memory and his notes with a view of elucidating an interesting problem. There is one other point in Mr. Willis' reference to the keeping qualities of fruit, and that rather early than late picking is advisable. Although my own experience is very small on this problem, I remember a leading fruit tree grower telling me; on conjointly looking at large exhibits of Apples in spring months, that allowing Apples to hang very late indeed is the true secret of their superior keeping qualities.

Your correspondent Mr. D. Thomson, on page 494, is, of course, quite right in his estimate of British top-fruit growing, and that foreign supplies play a great part in Scotland. Of course, Mr. Thomson would refer to the north-western counties and not the north-eastern, as stated, in view of the supposed effects of the Gulf Stream in ameliorating climate. It is curious to find that the myth of the Gulf Stream's effect alluded to by Mr. Thomson survives so generally, when we have learnt years



From "Gardening for Beginners."

Viburnum tomentosum plicatum.

Perhaps the most excellent of the Viburnums. It is now in flower, and is suitable for massed beds in sheltered places.

matter. In other seasons Apples are richly coloured all round. The explanation of the difference I have found to be probably in the occurrence of either dry weather for more than a month before the show, or, I will assume, that plenty of rain falls a month or six weeks before, cooling the ground and thus lessening nitrification. Although popularly—and may be rightly in reality, although indirectly—we attribute colouring to the influence of the sun, as fruit hidden under foliage has less colour than when freely exposed; yet that does not account for the whole difference, for I have observed that want of colour generally is the consequence of excessive sunshine and drought, and rich colouring takes place when rain is fairly plentiful for a time, a month or six weeks before the show. Nor is the explanation very difficult.

We know that nitrates are formed in the soil by the sun's rays when an area is greatly heated, about July, August, or September. Its increased supply in the soil stimulates growth, and thus Apples continue to grow at the expense of colouring or maturing. The influence of nitrate of soda as a fertiliser to promote growth is well known, and this applies to fruit under the conditions named. The matter finds confirmation in another way. I find reports on the cultivation of Peas emphasising the fact that the early pickings in June and July respond well to the application of nitrates as fertilisers; which is, again, as it should be, for in March, April, and even May, the soil is cold, or so little heated that nitrates fail to be naturally formed,

ago that its advent on European coasts is imperceptible. Its movement dies down at least five hundred miles west of Ireland, and recedes more usually to the vicinity of Newfoundland. British charts issued some six years ago show the absence of that "current" from our thresholds. Of course, there are the prevailing S.W. winds from the Atlantic Ocean urging on our shores the waters from the sub-tropical part of the Atlantic, which the tides help to carry up Channel as far as Dover and along our western coasts. But those S.W. winds are the result of the permanent condition of the existence of a great cyclone in the higher latitudes of the Atlantic, and a still larger presence of an anti-cyclonic system in the mid-latitudes, such systems being due to cosmical causes, and all the favour which the Gulf Stream theory has obtained is rightfully attributable to the anti-cyclonic system.

Mr. H. N. Dickson, of the Oxford University, gave a lecture two years ago before the Royal Society of London on the subject of the anti-cyclone, and interesting charts have been published by him showing the average monthly temperatures of sea water round our coasts, among other items, stating that the waters from the Severn flowing into the Bristol Channel are in winter about 6deg Fahr. colder than the Atlantic waters of the Bristol Channel. It may be safely assumed that if the Gulf Stream were diverted our senses would not become aware of its loss having happened.—H. H. RASCHEN.

Sidecup, Kent, June 16, 1902.

Societies.

Royal Horticultural.—Scientific Committee, June 10th.

Present: Dr. M. C. Cooke (in the chair): and Messrs. Odell, Saunders, Douglas, Veitch; Drs. Müller, Masters, and Rev. W. Wilks.

Fusarium Solani.—A letter was read from Professor Perceval in which he stated that he had proved experimentally that healthy Potatoes could be affected by this fungus.

Cauliflowers.—Mr. C. Hooper sought information as to the reason why certain Cauliflowers on his farm were all good, whilst others in another situation failed to form a "curd." Without further particulars, it was not possible to give a satisfactory explanation.

Insect Injurious to Apple Graft.—In reply to a question from Mr. Dunlop, of Armagh, the following letter was read from Mr. Saunders: "The beetle you sent to me the other day, said to be the cause of injury to Apple grafts at Loughall, Co. Armagh, belongs to the weevil family, and is known as the 'Brown leaf weevil'; its scientific name is *Phyllobius oblongus*. It is a well-known pest, feeding on the leaves and buds of various fruit trees; but I can find no record of its feeding on the bark. It is said to be particularly fond of attacking grafts, and if it will feed on the buds, I can see no reason why it should not also feed on the bark, particularly when it is young and tender. It is recommended that the grafts should be smeared with grafting wax or clay, to keep the insects away; but I feel uncertain whether this would not be prejudicial to the graft. These beetles can fly very well, but on a dull morning they might be shaken from the trees on to a white sheet. The eggs are laid below the surface of the ground, and the grubs feed on the roots of various plants, and undergo their transformation in the soil. The beetles emerge in the spring. It might be useful early in the spring to give a good dressing of kainit, nitrate of soda, or soot, which would be injurious to the beetle when it emerges in a tender state from its chrysalis, and tries to make its way to the surface.—George S. Saunders."

The Raspberry Moth, Lampronia rubiella.—The life history of this insect is rather unusual; the moth emerges from the chrysalis in the spring, and the females lay their eggs in the open flower, the egg being laid just below the surface of the receptacle (the core of the fruit); here it feeds until the fruit is ripe; it then leaves its quarters, and spins a small white cocoon in some place at the foot of the bush, frequently selecting the stool. It remains in this cocoon all the winter, and in the spring makes its way to the buds, piercing them and feeding within them in the manner which is so well known. The most effective remedy is to pick off the infested buds or shoots and burn them, taking care that the caterpillars do not escape during the operation. It has been suggested that it would be useful to throw dressings of ashes or sand mixed with paraffin oil (1 quart of oil to 1 bushel of sand) among the stools in the winter, but I should think it was very questionable if this was of any practical use. Raking away the earth and rubbish from round the stocks and then earthing them up again, has been recommended.—G. S. Saunders.

Virescent Tulip.—Mr. Saunders showed a specimen in which the perianth-segments were partially virescent, and in one instance from irregular growth the segment had been torn. The coloured portion uplifted with the growing stem, whilst the green portion remained beneath.

Melon Disease.—Further specimens were shown and submitted to Dr. Cooke for examination. Dr. Cooke remarked that as the fungus lived within the tissues of the plant, remedial measures were of no use as preventives. The plants should be burnt, the soil sterilised, and the house whitewashed and disinfected.

The York Gala, June 11th, 12th, 13th.

This was the forty-fourth year of this popular floral festival, and it took place, as usual, in the Bootham field on June 11, 12, and 13. Unfortunately the weather was unfavourable, for about the time for opening a heavy shower fell and smaller ones succeeded at intervals, making the ground wet and sticky and materially affecting the attendance. The exhibition is so extensive, and include so many fine features, that it is a pity when the state of the weather prevents many from seeing it. There were the groups, the bank of Orchids, fine stove and greenhouse foliage plants and Ferns; the bank of Pelargoniums for which York is so famous; fruit and cut flowers, with table decorations; and, to add to these, trade collections, not in competition, of a varied and interesting character. The arrangements are always good in the hands of the show committee and Mr. C. W. Simmons, the secretary, and the judges were able to get to work soon after the announced time, and to finish before the influx of visitors hampered their efforts.

At the luncheon to the judges, which was presided over by Sir Charles Milward, chairman of the committee, and at which were present the Lord Mayor, the Sheriff, the Dean of York, and other notabilities, the Lord Mayor stated that in the course

of the series of galas nearly £30,000 had been awarded as prizes, that over £6,000 had been paid to secure high-class bands, and £2,000 had been given to charitable institutions, while in addition there was a satisfactory reserve fund. It is to be feared that, owing to the wet weather which prevailed on the second and third days, as well as on the first day, the reserve fund would have to be drawn upon.

Groups of miscellaneous plants arranged for effect on a space not exceeding 300ft were a leading feature. They backed on to the staging on which the Orchids were placed. There were five competitors. Each adopted the square shape facing to the front, and they all showed the same method of arrangement. Each competitor depended upon brilliant foliage plants for creating the best effects, and where there was the richest material there was generally the best artistic effect. Crotons, Dracænas, Palms, and such things were freely used; at the backs were Palms, Bamboos, &c.; cones of plants fell into their places, and conspicuous dot plants added materially to the effect. A silver margined Abutilon was used with advantage by some of the exhibitors. The first prize was awarded to Mr. J. S. Sharpe, Valley Nurseries, Huddersfield; Mr. W. Curtis (gardener to J. Blacker, Esq., Thorpe Villas, Selby) was second; Mr. W. Townsend (gardener to E. B. Faber, Esq., M.P., Belvedere, Harrogate) was third; Mr. W. Vause, nurseryman, Leamington, was fourth; and Messrs. B. Simpson and Son, New Lane, Selby, fifth. The last-placed group was much superior to not a few found at flower shows about the country which take awards. With twelve stove and greenhouse plants Mr. J. Cypher, nurseryman, Cheltenham, was first with smaller specimens than those he will exhibit later on. *Ericas*, *Bougainvillea Cypheri* was in fine form; *Pimelea Hendersoni*, *Franciscea calycina*, &c., were well grown and bloomed. Mr. W. Vause was second, and a third prize was awarded to an exhibitor whose name we did not get. With six plants Mr. Cypher was again first and Mr. W. Vause second, much the same kinds of subjects competing. There was a class for six plants restricted to plants not exceeding 10in in diameter, and in this Mr. C. Lawton (gardener to Colonel Harrison Broadley, Welton House, Hull) was first. In another class for six plants, open, Mr. Cypher was first and Mr. Lawton was second. The time at disposal for gathering up the awards was so short that complete particulars could not be obtained.

The best specimen stove plant was *Bougainvillea Cypheri*, from Mr. Cypher; Mr. Vause came second with *Anthurium Scherzerianum*. The best specimen greenhouse plant was *Dracophyllum gracile*, Mr. Vause taking the second prize with a finely bloomed bush of *Azalea* Mrs. Carter.

The subject shown in the class for six fine-foliaged plants formed a noble background for the bank of Pelargoniums. Mr. Cypher was first with four majestic Palms—*Latania borbonica*, *Seaforthia elegans*, *Kentias Belmoreana* and *Forsteriana*—and two very fine Crotons, *Sunset* and *Queen Victoria*. Mr. W. Vause was second, also with four Palms and two Crotons. Mr. Cypher was also first with three plants. He had *Kentia Forsteriana*, a fine *Latania*, and *Croton Queen Victoria*. Mr. W. Vause was again second. The varieties shown in the class for three Crotons was so placed that neither the names of the exhibitors or the varieties could be obtained; nor in the case of the single specimen. The first prize specimen greenhouse Heath was a fine piece of *Erica ventricosa magnifica*; it was the only award made in this class. Colons were shown as flat-trained specimens of good colour. The only collection of twenty Alpine and herbaceous plants came from Mr. S. Hardcastle, Bishop Wilton, near York. The exhibitor had evidently been hardly put to it to get some of them into bloom. Exotic Ferns made a good feature. Mr. Eastwood (gardener to Mrs. Tedley, Westwood, Leeds) was first, with well-grown even specimens in the class for six specimens; the Rev. G. Yeats, Heworth Vicarage, York (gardener, Mr. J. Snowden) was second. In the class for three specimens Mr. Snowden took the first place and Mr. Eastwood was second. There was a class for a single specimen also; also for ten and six hardy Ferns, the varieties not calling for special notice.

Groups of Carnations made a very fine feature, not less than fifty pots being required. Mr. Leadbetter (gardener to A. Wilson, Esq., Tranby Croft, Hull) was first, with admirably grown plants finely bloomed; Mr. J. Roberts (gardener to the Duke of Portland, Welbeck Abbey, Notts) was second with a meritorious collection of Malmaison. Messrs. Walshaw and Son, nurserymen, Scarborough, had well-bloomed border varieties, which lost in effect owing to the prominence given to the stakes supporting the plants.

Table plants were a good feature. There was a class for a collection of Gloxinias shown on a table with foliage plants and also for eight. Collections of Roses in pots were somewhat poor; it was probably a little too late for them. Three classes were set apart for them. A group of Cannas was shown by Messrs. Walshaw and Son.

Orchids filled a good space, the best table of sixty superficial feet arranged for effect, cut blooms admissible, came from Mr. J. Cypher, and included the representatives of what are in

bloom at this season. Mr. J. Robson, Bowdon Nursery, Altrincham, was second. With ten specimens Mr. James Cypher was first, having good examples of *Cattleya Warneri*, *Mossia*, *Miltonia vexillarium*, *Cypripedium Lawrenceanum*, *Laelia purpurata*, *Epidendrum vitellinum majus*, *Masdevallia Veitchii* in fine character, &c.; Mr. J. Robson was second. With three specimens Mr. Cypher was first. He had *Laelia grandis tenebræ*, *Cattleya Mossia*, and *Epidendrum vitellinum majus*. Mr. J. Robson was second. Mr. W. P. Burkenshaw, West Hill, Hessele, was first in the amateur classes for three and in that for six, and also in that for three of any new or rare specimens. The crowd was too dense to gather up details. There was a class for a single specimen also, and Messrs. Backhouse and Son offered special prizes for four Orchids shown by amateurs.

The first prize, fifteen Show Pelargoniums, came from Mrs. Tetley. They were well grown and flowered, but wanted time to finish. The leading sorts were Lady Isabel, Magpie, Madame St. Hilaire, Madame Thibaut, and Sultana. Mrs. Tetley was the only exhibitor, and also in the class for six varieties, taking the first prize. Fancy Pelargoniums were small. If any prize was awarded it was to Mrs. Tetley, who was placed first with twelve Zonal Pelargoniums and six Zonal; Mr. H. Pybus, Monckton Moor, Leeds, was second in both classes, but he beat Mrs. Tetley with three specimens. With six double Zonals Mrs. Tetley was first and Mr. Geo. Lea, Bootham, York, second. Mrs. Tetley was first with three double-flowered and with six double-flowered Ivy-leaved varieties. It was the general opinion that the Pelargoniums throughout were not up to the usual mark.

Begonias were shown in two classes, but time did not admit of particulars being gathered up. Mr. Geo. Lee was first with six Fuchsias, nice medium specimens; and Miss Wharton, Burton Grange, York, was second. Mrs. Tetley had the best three, very good; and Miss Wharton was second. There was a class also for groups of Calceolarias; also for six and four plants.

In the way of floral designs the best table of 60ft came from Messrs. W. Artindale and Son. Orchids predominated, and the designs were nicely executed; Mr. C. E. Simpson, Huntress Row, Scarborough, was second, and Miss Anstey, West Norwood, third. Cut Roses were moderately shown. The best seventy-two blooms came from Messrs. Harkness and Co., Rose Nursery, Hitchin, and Mr. Geo. Prince was second. With forty-eight blooms Messrs. Harkness and Co. were again first, and also with thirty-six varieties; Mr. Geo. Prince, Rose Nursery, Oxford, was second. In the twenty-four varieties Messrs. Harkness and Co. were again first, also with eighteen; Mr. Geo. Prince was second. Tea Roses and Maréchal Niel largely predominated in all the foregoing classes. With twelve white and yellow Roses Mr. Geo. Prince was first and Messrs. Harkness and Sons, Bedale, second. Two classes for eighteen blooms and twelve blooms were also open to amateurs. The best twelve bunches of stove and greenhouse cut flowers came from Mr. Lamb (gardener to J. T. Laycock, Esq., Bantry); Mr. J. McIndoe (gardener to Sir J. W. Pease, Bart., M.P., Hutton Hall, Guisborough) was second. Orchids, Ixoras, Anthuriums, Gloxinias, &c., were the leading subjects. In the class for twelve bunches, Orchids excluded, Mr. McIndoe was first, and Mr. Keywood (gardener to W. H. B. Wrightson, Esq., Cusworth Park, Doncaster) second.

The best collection of hardy cut flowers filling a space of 90ft came from Messrs. Harkness and Sons, and very good they were; Messrs. G. Gibson and Co., Leeming Bar, Bedale, was second, and Messrs. Harkness and Co. third. With twenty-four bunches Messrs. Harkness and Son were first, and Mr. G. Cottam, Alma Gardens, Cottingham, second. With twelve bunches, open to amateurs, Mr. W. Hutchinson, Kirbymoorside, was first and Mr. McIndoe second.

Table decorations included flowers in a vase or epergne for the dinner table. Some pretty arrangements were set up. Mr. G. Cottam was first. He had red Anthuriums, blue Cornflower, and white Spiræa; Mr. Geo. Webster, New Market, Sunderland, was second, and Mr. W. Vause third. Messrs. Perkins and Son, Coventry, were first with a hand-basket of cut flowers, having charming Orchids and suitable foliage; Messrs. W. Artindale and Son were second, also with Orchids. Messrs. Perkins and Son were also first with the best hand-basket of flowers, Orchids excluded. Carnations, Stephanotis, and other fragrant subjects were employed. Messrs. Perkins and Son were first with two bridal bouquets, composed of white Orchids; they were also first in the two ball bouquets; and for a hand bouquet having an elaborate shower bouquet Messrs. Artindale and Son were second.

In the fruit classes there was a good display of well-finished fruit for the season. The class for a decorated table of ripe fruit 10ft by 4ft 6in brought a good competition, Mr. J. H. Goodacre, Elvaston Castle Gardens, winning with an aggregate of ninety-six points. He had full points for beauty of flowers and foliage, for harmonious blending of colours, and for general effect. He had Grapes, Peaches, Nectarines, Plums, Melons, &c. Mr. J. McIndoe came second with 78 points; and Mr. C. E. Simpson, Scarborough, was third. In the class for a collection of fruits,

six kinds, Mr. Goodacre was again first. He had Black Hamburgh and White Muscat Grapes, Smooth Cayenne Pine, Lord Napier Nectarine, Royal George Peaches, and Frogmore Scarlet Melon. Mr. J. McIndoe was second, also having a good collection. In the class for six kinds excluding Pine, Mr. J. C. McPherson (gardener to Lord Londesborough, Market Weighton) was first, and Mr. J. Easter, The Gardens, Nostell Priory, Wakefield, second. Pine Apples were rather poor. Mr. J. McIndoe had the best three bunches of Black Hamburgh Grapes, very good, and Mr. W. Nichols, The Gardens, Carlton Towers, Yorks, was second with three bunches of white Grapes. Mr. Nichols came in first with well-finished Buckland Sweetwater; Mr. M. Murchison (gardener to F. B. Grotrian, Esq., Ingmanthorpe Hall, Weatherby) was second with the same, and Mr. McIndoe third with Duke of Buccleuch. Peaches and Nectarines were both good; in the latter class Early Rivers was very fine. Melons were shown in three classes. Mr. R. Doe (gardener to the Earl of Derby, Knowsley, Prescott) was first with both scarlet and green fleshed, and Mr. Leadbetter first with white flesh. Figs were fairly good. Cherries very fine, Early Rivers in particular. Mr. R. Doe had the best dish of Strawberries, showing fine Royal Sovereign. Tomatoes were also very fine for the season. The limitations of time prevented gathering up fuller particulars.

In the two classes for vegetables—Messrs. Sutton and Sons, Reading, offering the special prizes in one and Messrs. E. Webb and Sons, Stourbridge, in the other—Mr. E. Beckett (gardener to Lord Aldenham, Elstree, Herts) was an easy first with perfect produce. Mr. McIndoe took the second of Messrs. Sutton and Sons' prizes, and Mr. Thos. Hague, Carlton, the second of Messrs. Webb and Sons.

Non-competitive contributions provided several interesting features. A Special Gold Medal was awarded to Messrs. Backhouse and Son, nurserymen, Yorks, for a bold and striking collection of hardy Rhododendrons, Azaleas, &c. Gold Medals were also awarded to the following: Mr. Cowan, Gatacre, for a collection of Orchids, including interesting novelties; to Mr. John Russell, nurseryman, Richmond, for a fine group of stove and greenhouse plants; and to Messrs. R. Smith and Co., nurserymen, Worcester, for specimen Clematis and other plants and cut flowers.

First Class Certificates of Merit were awarded to the very fine strain of single and double Begonias shown by Messrs. Blackmore and Lington, Tiverton Hill Nursery, Bath, and to a superb collection of the Alderborough strain of St. Brigid Anemones from Messrs. Ramsbottom and Co., Alderborough, Geashill, King's County, Ireland. Awards were also made to a collection of Carnations in pots and cut flowers, all of a high order of merit, from Mr. R. H. Bath, Limited, Floral Farm, Wisbech; to Messrs. W. and J. Brown, nurserymen, Stamford, for a collection of plants which included a fine lavender-coloured Heliotrope Lord Roberts, to which a Certificate of Merit was awarded. Mrs. Hodgkins, West Didsbury, Manchester, had one of her charming collections of skeleton flowers and foliage, which was greatly admired.

Royal National Tulip, June 7th.

The annual northern show was held at Middleton on Saturday, June 7. Although the date chosen was a late one, it suited very few of the growers, being too early for the local men and rather too late for Tulips grown south of Manchester. The season has been one of the worst ever known in the history of the society. Every kind of bad weather has been the lot of the Tulip this most wretched spring.

There was, however, a surprisingly good show of rectified flowers, especially in the feathered classes, but breeders, with the exception of a few of Messrs. Needham and Eyre's flowers, were wretched, being either too small, or marked by hail or frost. There was a good fight for the silver cup for the best twelve rectified Tulips, but Mr. J. W. Bentley managed to beat Mr. Needham with a stand of well marked flowers in which the feathers were really excellent, especially Modesty, Miss Nightingale, George Hayward, and Gentle Jackie. Gentle Jackie is a seedling of Mr. Bentley's, and is beautifully feathered on a pure white ground. The shape, however, leaves something to be desired. Mr. Needham excelled in flamed flowers, S. Barlow, Sir Joseph Paxton, and Mabel being very fine. Mr. Eyre brought large, well grown flowers. He had Heroine and Stockport very well feathered, Aglaia, Talisman, and A. McGregor beautifully flamed. His breeders were also excellent. Mr. Buckley showed small but beautifully marked examples of Stockport, Alice, and Sir Joseph Paxton, feathered. Messrs. Buckley and Eyre, although comparatively novices in Tulip growing, will evidently soon be equal to any of the older exhibitors. The judges were Messrs. Housley (Stockport), Whittaker (Royton), and Mellor (Wakefield), and they made the following awards:—

Class 1, twelve dissimilar, rectified Tulips.—First, Mr. J. W. Bentley (Middleton), with Sir Joseph Paxton, Samuel Barlow (flamed), Geo. Hayward, Hepworth's 180/64 (feathered bizarres), Miss Nightingale, Modesty (feathered), Aglaia, A. McGregor

(flamed roses), Gentle Jackie, Stockport (feathered), Talisman, Duchess of Sutherland (flamed bybs.). Second, Mr. C. W. Needham, Hale, Cheshire, with Sir Joseph Paxton, Samuel Barlow (flamed), Lord Lilford, Sir Joseph Paxton (feathered bizarres), Mabel, Triomphe Royale (flamed), Jane, Mrs. Atkin (feathered roses), Talisman, George Edward (flamed), Mrs. Hepworth, Elizabeth Pegg (feathered bybs.). Third, Mr. A. Moorhouse (Wakefield), with Sir J. Paxton, S. Barlow (flamed), Sir J. Paxton and G. Hayward (feathered bizarres), A. McGregor, Aglaia (flamed), A. McGregor, Lady Grosvenor (feathered roses), Queen of the May, Lord Denman (flamed), Queen of the May, Adonis (feathered bybs.). Fourth, Mr. J. Wood (Middleton), with Prince of Wales, Wm. Wilson (flamed), Sir J. Paxton, Wm. Wilson (feathered bizarres), Mabel, A. McGregor (flamed), Industry, Modesty (feathered roses), Talisman, Lord Denman (flamed), Alice Grey, Wm. Parkinson (feathered bybs.). Fifth, Mr. H. Gill (Wakefield), with Sir J. Paxton, Dr. Hutcheon (flamed), Sir J. Paxton, G. Ramsden (feathered bizarres), Mdme. St. Arnaud, Thos. Parker (flamed), Industry, Modesty (feathered roses), Lord Denman, Van Amburg (flamed), Alice Grey, Bessie (feathered bybs.).

Class 2, six dissimilar Tulips, one feathered and one flamed in each class.—First, Mr. Needham, with Dr. Hardy and Magnum Bonum (bizarres), Talisman and E. Pegg (bybs.), Aglaia and Mrs. Atkin (roses). Second, Mr. Bentley, with Samuel Barlow and Lord Stanley (bizarres), Chancellor and Bessie (bybs.), A. McGregor and Modesty (roses). Third, Mr. Gill, with Sir J. Paxton and Gill's Seedling (bizarres), George Edward and Sylvester (bybs.), A. McGregor and Modesty (roses). Fourth, Mr. Wood, with Sir J. Paxton (feathered and flamed bizarres), Talisman and W. Parkinson (bybs), Mabel and Modesty (roses). Fifth, Mr. Moorhouse, with Dr. Dalton and Sir J. Paxton (bizarres), Talisman and Catherina (bybs.) Aglaia and Modesty (roses).

Class 3, six dissimilar Tulips, one feathered and one flamed, in each class (for 10s. 6d. subscribers only).—First, Mr. T. Buckley (Stalybridge), with Sir J. Paxton (feathered and flamed bizarres), Stockport (feathered and flamed bybs.), A. McGregor and Alice (roses). Second, Mr. G. Eyre (Ripley), with S. Barlow and Albert (bizarres), Talisman and Stockport (bybs.), Clio and Count (roses).

Class 4, three feathered Tulips, one in each class.—First, Mr. Needham, with Masterpiece, Mrs. J. Gibbons, Mrs. Atkin; second, Mr. Bentley, with Sir J. Paxton, Seedling byb., Modesty; third, Mr. Buckley, with Sir J. Paxton, Mrs. Hepworth, Modesty; fourth, Mr. Gill, with Garibaldi, Talisman, Modesty; fifth, Mr. Eyre, with Wm. Annibal, Bessie, Miss Nightingale.

Class 5, three flamed Tulips, one in each class.—First, Mr. Needham, with Dr. Hardy, Talisman, Aglaia; second, Mr. Eyre, with Dr. Hardy, Talisman, A. McGregor; third, Mr. Bentley, with Sir J. Paxton, Talisman, Mabel; fourth, Mr. Gill, with Sir J. Paxton, Talisman, A. McGregor; fifth, Mr. Wood, with Sir J. Paxton, Talisman, A. McGregor; sixth, Mr. J. Thurstan (Can-nock), with three seedlings.

Class 6, pairs of Tulips (maiden growers).—No entry.

Class 7, pairs of Tulips (Samuel Barlow Memorial Prizes).—First, Mr. Needham, with S. Barlow and Wm. Wilson; second, Mr. Moorhouse, with Sir J. Paxton, feathered and flamed; third, Mr. Gill, with Dr. Hardy and Gill's Seedling; fourth, Mr. Bentley, with Sir J. Paxton and Geo. Hayward; fifth, Mr. Wood, with Talisman and Modesty; sixth, Mr. Eyre, with Orpheus and Stockport.

Class 8, single blooms.—FEATHERED BIZARRES: First and second, Mr. Needham, with Lord Lilford and Typo; third, Mr. Eyre with Sir J. Paxton; fourth and fifth, Mr. Bentley, with Duke of Devonshire; sixth, Mr. Eyre, with Sir J. Paxton; seventh and eighth, Mr. Gill, with Criterion and Sir J. Paxton; ninth, Mr. Moorhouse, with Sir J. Paxton; tenth, Mr. Buckley, with Lord Lilford. FEATHERED ROSES: First, Mr. Eyre, with Heroine; second and third, Mr. Bentley, with Modesty; fourth, Mr. Wood, with Modesty; fifth, Mr. Buckley, with Industry; sixth, Mr. Needham, with Mrs. Atkin; seventh, Mr. Gill, with Industry; eighth, Mr. Moorhouse, with Industry; ninth, Mr. Gill, with Aglaia; tenth, Mr. Moorhouse, with Modesty. FEATHERED BYBS.: First, Mr. Needham, with Universe; second, Mr. Eyre, with Adonis; third, Mr. Buckley, with Stockport; fourth, Mr. Eyre, with Adonis; fifth, Mr. Bentley, with Bertha; sixth, Mr. Needham, with Pegg's Seedling; seventh, Mr. Buckley, with Stockport; eighth, Mr. Bentley, with Bertha; ninth, Mr. Wood, with Talisman; tenth, Mr. Moorhouse, with Adonis. FLAMED BIZARRES: First, Mr. Moorhouse, with Sir J. Paxton; second and third, Mr. Needham, with Samuel Barlow and Dr. Hardy; fourth, Mr. Eyre, with Merit; fifth and sixth, Mr. Bentley, with Lord Stanley; seventh and eighth, Mr. Buckley, with Dr. Hardy and Sir J. Paxton; ninth, Mr. Gill, with Dr. Hardy; tenth, Mr. Eyre, with Sulphur. FLAMED ROSES: First, Mr. Eyre, with Aglaia, second, Mr. Needham, third, Mr. Bentley, fourth, Mr. Gill, fifth, Mr. Eyre, sixth, Mr. Wood, and seventh, Mr. Bentley, with Mabel; eighth, Mr. Wood, with A. McGregor; ninth, Mr. Needham, with Mabel; tenth, Mr. Gill, with Mdme. St. Arnaud. FLAMED BYBS.: first and second, Mr. Needham, with Adonis and Sutherland; third, Mr. Bentley, with Adonis; fourth, Mr. Eyre, with Adonis; fifth, Mr. Gill, with Lord Denman; sixth, Mr. Eyre, with Universe; seventh, Mr. Buckley, with Stockport; eighth, Mr.

Bentley, with Universe; ninth, Mr. Gill, with Lord Denman; tenth, Mr. Buckley, with Lord Denman.

Class 9, the best feathered Tulip in the show.—Mr. Bentley, with Miss Nightingale.

Class 9, the best flamed Tulip in the show.—Mr. Needham, with Sir J. Paxton.

Class 10, six breeder Tulips, two of each class.—First, Mr. Needham, with Alfred Lloyd and Schofield's Seedling (bizarres), Lloyd's 220, A. McGregor (roses), Talisman, W. Bentley (bybs.). Second, Mr. Bentley, with Alfred Lloyd, Goldfinder (bizarres), A. McGregor, Lady Grosvenor (roses), Adonis, Leech's Seedling (bybs.). Third, Mr. Moorhouse, with Sulphur, Lord F. Caven-dish (bizarres). Mabel, A. McGregor (roses), Mrs. Whittaker, Queen of the May (bybs.). Fourth, Mr. Wood, with Alfred Lloyd, Sulphur (bizarres), A. McGregor, Mabel (roses), Mrs. Cooper, E. Pegg (bybs.). Fifth, Mr. Gill, with J. Goodair, Sulphur (bizarres), Mdme. St. Arnaud, T. Parker (roses), Talisman, Ethel (bybs.).

Class 11, three breeder Tulips, one in each class.—First, Mr. Eyre, with Goldfinder, Rose Hill, Bridesmaid; second, Mr. Needham, with Lloyd's 236, Lloyd's 220, Beauty of Litchurch; third, Mr. Bentley, with Alfred Lloyd, A. McGregor, Adonis; fourth, Mr. Wood, with Alfred Lloyd, Mabel, Mrs. Cooper; fifth, Mr. Moorhouse, with Sir J. Paxton, A. McGregor, Mrs. Whittaker; sixth, Mr. Gill, with Dr. Hardy, Mdme. St. Arnaud, Ethel; seventh, Mr. Buckley, with W. Wilson, Industry, Agnes.



Peach, Duke of York (Natural size).

Class 12, single blooms.—BIZARRE BREEDERS: First and second, Mr. Eyre, with Sulphur; third, Mr. Needham, with Horatio; fourth and fifth, Mr. Bentley, with A. Lloyd and Goldfinder; sixth, Mr. Moorhouse, with Sir J. Paxton; seventh and eighth, Mr. Gill, with Sir J. Paxton and Sulphur. ROSE BREEDERS: First, Mr. Eyre, with Mabel; second and third, Mr. Needham, with Queen of England and A. McGregor; fourth, Mr. Wood, with Mabel; fifth, Mr. Moorhouse, with Mabel; sixth, Mr. Wood, with A. McGregor; seventh and eighth, Mr. Bentley, with Martin's Seedling and Rose Hill. BYB BREEDERS: First, Mr. Gill, with Ethel; second, Mr. Bentley, with Ashmole's 114; third, Mr. Gill, with Ethel; fourth, Mr. Eyre, with Bridesmaid; fifth, Mr. Buckley, with Agnes; sixth, Mr. Moorhouse, with Mrs. Whittaker; seventh, Mr. Wood, with Martin's 117; eighth, Mr. Moorhouse, with Bertha.

Best breeder in the show.—Mr. Needham, with Alfred Lloyd.

Peach, Duke of York.

Messrs. Thomas Rivers and Son, of Sawbridgeworth, staged a dish of this new variety of Peach at the Royal Horticultural Society's meeting on May 20. In referring to it, we said that this was a variety "that is sure to come to the front, and is spoken of by experienced growers as an exceedingly good Peach." The Fruit Committee recommended an Award of Merit. The size and form is shown by our illustration, and outwardly the fruit is pretty and well coloured. The flavour is excellent. The variety resulted from a cross between Early Rivers Nectarine and Alexander Peach, and the offspring ripens as early as the Alexander Peach, but has the merit of maintaining its buds, which the latter (American) parent often drops.

THE BEE-KEEPER.

Swarming.

To some bee-keepers swarming is a source of trouble and anxiety, and this is especially so when increase is not desired. Apart from this, however, it is almost impossible to harvest a large crop of honey if swarming is permitted. Where honey is the object, it is therefore imperative that it should, if possible, be entirely avoided, and this can only be accomplished by careful management. A good hive mismanaged will give poor results, but two poor ones cannot under any circumstances turn out well. In the first place, swarming is the natural instinct of reproduction, prompting the bees to rear a queen when breeding is at its height, and the hive very densely populated, to supersede the old queen, which accompanies the swarm to form a new home. This natural emigration is consequent and dependent upon a variety of conditions and circumstances, among which may be mentioned excessive heat, generally caused by overcrowding, inability of the bees to deposit their stores through lack of room.

The most reliable symptoms of swarming are bees loitering at the entrance, and occasionally running in and out of the hive as if actually working, but never taking wing, and clustering on the alighting board. The exigencies of space become imperative, and compel the bees and queen to leave the hive. There is no infallible method of preventing swarms. In working for extracted honey, the most efficient way to obtain this desideratum is to limit the production of drones, keep as many young queens as possible, shade the hives in the middle of the day, open all entrances full width, and at the same time raise the roof to provide a good distribution of air. Conduction and evaporation play a minor part in the reduction of temperature, ventilation being the main agent.

Supers should always be added a little in advance of the requirements of the colony, as, if the bees are once cramped, no subsequent addition of room will prevent them coming off. The salient point is to encourage comb building and honey gathering. This may be done by not imposing any fetters on the actions of the bees. When a colony is observed loitering, an examination of the brood chamber will generally reveal queen cells in progress. Each bar must then be gone over carefully, all cells excised, and additional room given to the queen for ovipositing by adding a shallow super underneath the brood chamber, or removing two or three bars of brood and inserting bars fitted with foundation in their places. The bars of brood may be distributed amongst the other colonies to hatch. When an undesired swarm has issued, and there is no lack of frames and body boxes, a double brood nest may be given. After carefully going over all the combs and cutting out every queen cell, place the bars alternately with empty drawn outs, or bars of foundation in both storeys, which will increase the capacity of the hive; then return the swarm, and at the same time put on supers. If this is properly carried out there is little or no risk of them swarming again, and a good harvest is almost certain. Consideration will show that the increased expense in providing double brood chambers is more apparent than real. As honey is generally coming rapidly in the swarming season, everything should be done to keep the bees at work storing.

One plan which yields excellent results is to live the swarm on its old stand in a shallow super of worker base, upon which place the queen excluder and another shallow storey. This is far preferable to any plan of contracted brood chambers, as all the honey is stored above, and breeding goes on below. If the original stock is removed, and the new one put in its position, all the working force will return and strengthen the swarm; and as there is no brood to nurse, more bees will be liberated for honey gathering, which, regarded from the commercial side, is of considerable importance. In this case the queen excluder must not be omitted, or there will be a difficulty in separating the honey and the brood when required. If a hive is quiet in the early morning while others are active, a swarm may soon be confidently expected. The first signs of the issue of a swarm are bees coming out numerous, and flying about in an aimless manner in the air until it seems completely full of them. A small cluster then generally appears on some adjacent tree or bush, the animated particles of which it consists grow so rapidly that in five minutes it assumes the shape and size of a football, which is joined by the queen.

As soon as the swarm is comfortably settled, it may be hived. This is quite a simple operation. A skep held in the left hand is the lightest and most convenient article. Give the twig or branch upon which the bees have settled a sudden, sharp shake to dislodge them, and they fall in a mass to the bottom of the skep. Care must be taken to secure the queen. Afterwards turn the receptacle the right way up, raise one edge an inch or two, so that the stragglers may join the other bees, and shade if the sun is hot. Now prepare the bar-frame hive if this has not already been done, and towards evening the bees may be emptied out of the skep into the moveable comb hive placed in its permanent position.

There are various methods of putting swarms into bar-frame hives, one of which is as follows:—Remove the roof of the hive and the quilts, place the skep on the top of the frames, then with both hands lift the skep and bump it on the bars once or twice. The bees will fall on the frames and immediately run below, when the quilts must be replaced; or the bees may be shaken on a board in front of the hive, and allowed to run in at the entrance. This is the method in most general use in this country.—E. E., Sandbach.



Fruit Forcing.

VINES: IN POTS.—Stop those for fruiting next season when from 6ft to 8ft long, according to the length of cane the fruiting is desired on, and pinch the laterals and sub-laterals to one joint as produced. Obtain as much stored-up matter in the Vines as possible by judicious feeding and cleanly foliage thoroughly exposed to light and air. Vines intended for planting should be kept in comparatively small pots, and in that case they will not make a large amount of lateral growth, which need not be closely pinched, but it is better to stop at the first joint, and afterwards not allow the sub-laterals to interfere with the principal foliage.

HOUSES OF LATE GRAPES.—The berries must be thinned immediately they are large enough, as they swell rapidly at this season, and soon become too large to be thinned properly and expeditiously; besides, when the work is deferred too long the size of the fruit is impaired. The laterals must not be allowed to extend so as to interfere with the principal foliage. The growth may be permitted to extend where there is space to admit of its full exposure to light, but not otherwise, as overcrowding and overcropping are often the causes of failure, and more frequently so than any other error of culture. Remove all superfluous, badly placed or deformed bunches. Crop lightly, which means size, quality, and high finish; bulk signifies small fruit, bad colour, poor quality, often shanking, and always non-keeping. Water thoroughly when necessary; one good watering is worth many dribbles. Afford top-dressings of chemical manures, and a light mulch of sweet lumpy manure will prove beneficial in most cases by encouraging surface roots and maintaining the moisture uniformly.

HOUSES OF RIPE GRAPES.—Black Grapes will be better for a slight shade from powerful sun; some pilchard or a double thickness of herring nets drawn over the roofs will mostly be sufficient shade, and a good spread of foliage will not injure the berries but assist in Hamburgs keeping colour. Moderate air moisture will not injure the Grapes if accompanied by free ventilation. Keep laterals fairly under, but a little extension will assist in retaining the principal leaves, and upon their continuance in health depends the maturing of the buds for next year's crop. Muscats and all amber-coloured Grapes improve in colour after being apparently ripe, and bear exposure to light without detriment up to a certain point, that of the rich golden amber stage, but after that they become darker and blotchy, then the skin is very susceptible of injury from moisture, which must be strictly guarded against by free ventilation and a little air constantly.

PEACHES WITH FRUIT RIPENING.—The trees must not be syringed, but moderate moisture should be maintained until the fruit is ripe; even when ripe an arid atmosphere should be avoided, as it is highly prejudicial to the foliage and induces to attacks of red spider. Water must be given liberally at the roots, not, however, making the soil sodden and sour by needless applications. In gathering Peaches great care is necessary, as the least pressure makes a mark and spoils their appearance. A piece of wadding should be held in the hand and the fruit removed by gentle pressure on the base, and the fruit gently laid in a padded basket or tray. A cool and airy fruit room is the best place to keep Peaches and Nectarines in after they are gathered.

TREES SWELLING THEIR CROPS.—When the stoning is over the trees will endure strong heat without fear of the fruit falling. Afford tepid liquid manure to the roots of trees carrying full crops, and otherwise not too vigorous. Be careful in giving liquid manure to very vigorous trees, as it tends to over-luxuriance, and may interfere with setting and stoning in the succeeding year. Still, liberal treatment is necessary, such as light surface mulchings and copious waterings every week or

ten days on well-drained borders. Syringe twice a day to keep down red spider, ventilate early, keep the temperature through the day at 70deg to 75deg and 80deg to 85deg with sun heat, and close the house sufficiently early to increase the heat to 90deg. This, with abundance of moisture in the house, will ensure large fruit, and if ventilation is given before nightfall and increased early in the morning all will be well; but if a close and moist atmosphere be maintained with a high temperature the fruit, though large, will lack flavour. Keep the fruit with the apex to the light; laths placed across the wires of the trellis will admit of this being done; and clear away the leaves from the fruit, but do not remove them if it can be helped. When approaching ripening cease syringing, admit air freely, and 60deg to 65deg at night will be a sufficiently high temperature, or artificially in the daytime, unless it is wished to accelerate the ripening, when it should range from 70deg to 75deg, with a rise of 10deg from sun heat.

FRUIT STONING.—Maintain a steady temperature of 60deg to 65deg at night and 5deg to 10deg rise by day, with the usual advance of 5deg to 10deg, or even 15deg at closing from sun heat. Avoid a close atmosphere, and maintain a uniform temperature and as equable a condition of moisture as practicable. Sudden fluctuations of temperature and cold draughts are pernicious, and equally disastrous is insufficient water at the roots. Allow a moderate extension of growth during this time, and do not permit a great percentage of fruit to stone that must be removed afterwards, but remove it in good time. A superfluity of fruit at stoning prejudices the crop, and, even if stoning takes place, the fruit rarely finishes well, but falls off small and flavourless, and a partial failure another year may be anticipated. Stop your shoots or remove them altogether, so as to maintain an equal diffusion of growth throughout each individual tree.—**ST. ALBANS.**

The Kitchen Garden.

AUTUMN CABBAGE.—Young and tender Cabbages are appreciated in autumn as a change from other vegetables. If strong young plants are placed in rows 2ft apart on fairly rich ground they will have ample time to develop by the time named. By planting a good breadth at this time old and exhausted plantations may be cleared off more frequently. Encourage the growth of Red Cabbage, affording them ample supplies of liquid manure. A good mulching of rich solid manure will secure to them both food and moisture. Cabbage is very gross feeding, and must not be stinted in its food supply if large hearts are wanted.

OUTDOOR TOMATOES.—Rapid growth and the production of bloom trusses has been delayed owing to the prevalence of a low temperature and cold winds. Secure the main stems to the supports, and carefully keep them free of side shoots. The soil may have become dry about the roots, in which case give a thorough soaking of water; but do not give liquid manure until fruit has set. Plants in 3in to 6in pots which have been hardening in a sheltered position may be planted out against a wall or fence in any convenient aspect, as well as against stakes in the open. For outdoor culture the red varieties cannot be surpassed.

CELERY.—The main crop of well prepared Celery plants ought now to be transferred from the beds or frames where they were pricked out some weeks ago. If this were done on a base of decayed manure, on which 3in or 4in of soil was spread, and made moderately firm, each plant can be cut out with a good quantity of roots attached as well as soil. The removal should be effected when the soil is moist, for then the plants are stiffer, and transplant better. Trim off small suckers which appear at the base. Shallow trenches only need to be prepared about 15in wide. Work into them some decayed manure about 6in in depth, and incorporate well with the soil, and afterwards place on a few inches of material, good loamy soil, free from stones and rubbish, into which the plants may be inserted. The trenches ought not to be less than 5ft apart, to give abundant room for earthing. The ground from which late Broccoli or old Cabbage has been removed is the most suitable, being firm and undug. Trenches may be formed, if more convenient, between rows of Peas and Beans. This is sometimes convenient, because of the shade it affords during very hot weather. The plants may be inserted about 9in apart in the rows, which will give ample room for development. In order to utilise space, double rows may be planted, when wider trenches must be formed. Single rows are, however, the most conveniently attended to, and for late plants should be adopted. If sturdy young seedlings are available, there is still time to secure strong young plants for the late supply by pricking them out now on a good bed of soil. A little shade may be necessary, with frequent sprinklings of water, affording more moisture as the plants advance in size.

LEEKS.—Well grown examples of Lyon, Musselburgh, or other Leeks are much appreciated when well blanched. Seedlings may now be lifted and planted on good rich ground, giving them a foot of space at least in the rows, and 2ft between.

An excellent method of growing them is to prepare trenches as if for Celery, inserting the plants in them a foot apart. As they grow, remove the bottom leaves, and draw earth to the stems, also occasionally shortening the longest leaves. When in active growth, liquid manure will prove beneficial. Frequently hoe among the plants, this promoting growth and encouraging a vigorous condition. Light sprinklings of soot may be dusted round the plants previous to giving the frequent earthings.—**EAST KENT.**



TO CORRESPONDENTS

* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

OAK GALLS (J. P.).—The well-known Oak gall (of which we give a figure) is the work of one of the gall flies (Cynipidæ), named *Cynips Kollari*, a four-winged fly. Parasitic mites sometimes enter into the galls and devour the *Cynips* before it is mature. Other insects besides the fly and mites inhabit these galls, and to obtain them the titmice and other birds drive holes into the substance of the gall. The galls are really accumulated



Oak Galls.

masses of tissue, the result of a special effort on the part of the tree to cover up an injury—a puncture by the gall flies—or the irritation set up by the presence of the larvæ would account for the galls.

ARAUCARIA EXCELSA, TOO LARGE (F. J.).—The only thing is to dispose of the trees to those with lofty conservatories or winter gardens. The demand, however for such plants is very limited. They will not do outside, not even in sheltered situations, and protection, so far as we know, has not been tried, and is neither likely to succeed in very severe winters nor to be adopted from the large size of the trees and expense and trouble of the shelter, not to mention the eyesore of protected plants. The Norfolk Island Pine is, when well grown, a beautiful symmetrical greenhouse or conservatory species, attaining to a height of 150ft and a circumference of 20ft or more, no one finding room for such a gigantic beauty, though in a small state largely grown, and finding place in many sitting room windows, as well as in greenhouses and conservatories.

YELLOW SUBSTANCE ON WATER BUTTS (L. Dawes).—In answer to your query Mr. Abbey writes, saying: "There was no sulphur or resting spores, simply some *Algae* growing in contact with pollen grains, those of the Scots Fir, *Pinus sylvestris*, which were later in being dispersed this year than usual, and this happening soon after the volcanic disaster in Martinique led your friends to exercise their supernatural proclivities. Perhaps there are showers of sulphur, only they seldom or never occur where parasitic fungi resting-spores are germinating. At any rate, the good never comes, as I believe a shower of sulphur would do as a fungicide, but the 'yellow substance,' i.e., the pollen, comes every, or most years, and is potent for nothing that I know of but for fertilising the pistillate parts of Scots Fir cones. The fear is that the pollen does not find its billet on Scots Firs, simply because they are not where the dust is cast, a matter to be much regretted. There are thousands of acres of commons and moors that would grow splendid deals, and quite equal, under judicious management of the trees, to any imported. Hampshire, from whence the query comes, is very rich in Scots Firs."

COMMONS AND FOOTPATHS PRESERVATION SOCIETY (X. Y. Z.).—The address of the Secretary (Mr. Lawrence W. Chubb) is 25, Victoria Street, London, S.W.

DRESSING FOR VINE BORDER (Light).—We are afraid you do not study the fortnightly notes on Vines under Work for the Week, else you would there find all you inquire about. For swelling crops, however, and to encourage surface rooting, apply light dressings (1oz to sq yd) of Thomson's Vine Manure or Clay's Fertiliser. Your name and address should accompany any query or communication you may send in future.

TOMATO BRANCH DISEASED (H. G.).—The fruiting branch or truss is infested by a mildew, evidently that known as Hop Mildew, *Sphaerotheca castagnei*, in the conidial condition, which is sometimes a scourge on Cucumbers, but we have not before seen it on Tomatoes. The fruit is infested by Tomato Black Rot, *Macrosporium tomato*, and the rust or stripe on the truss stem is caused by that parasite. The mildew has certainly been retarded by the dressing of black sulphur, but flowers of sulphur, with one part of slaked lime added to two parts of sulphur, is more effectual. This dressing, however, has no effect on Black Rot, which probably is accelerated in its attacks by the presence of the mildew, for *Macrosporium tomato* is generally a wound parasite. All affected fruit should be collected and burned, and the plants sprayed with sulphide of potassium solution, 1oz to 2½ gal of water, first dissolving the sulphide in about a quart of hot water, and then diluting to 2½ gal with cold water. The spraying should be repeated at frequent intervals. The powder fungicides, such as antiblight, are effective against the disease, but only preventing its spread, for once the fungus enters the tissues, only destruction of the affected parts is of any avail. Remove all such and burn them.

PEAR LEAVES BLISTERED AND FRUIT "SCABBY" (R. C.).—The leaves are what is known as blistered, the spots being caused by the Pear-leaf gall mite, *Phytoptus (Eriophyes)* of some pyri. This pest causes the spots or blisters on the leaves, while the black patches are caused by "scald and cracking" fungus of Pears, *Fusicladium pirinum*. The Pear mite is best prevented by thoroughly spraying the tree while dormant, or just before the buds commence swelling in the spring, with paraffin emulsion, termed soluble paraffin (petroleum or kerosene), diluted with seven times its bulk of water, preferably hot, and applied at a temperature of 135deg. Thorough treatment is necessary, so as to reach the mites hibernating in the folds of the outer scales of the buds. Their ravages may be checked in the current year by spraying with the following combined insecticide and fungicide, which acts well against the Pear mite and the cracking and scabbing fungus:—Paraffin emulsion, 8oz; sulphide of potassium, commonly called "liver of sulphur," 1oz; water, 3 gals. Both the emulsion and sulphide are best dissolved in hot water, say the first in a gallon and the latter in a quart, and when dissolved add the two together and soft water to make 3 gals. Spray the infested tree two or three times at intervals of a fortnight, wetting the under as well as upper surface of the leaves.

CULTURE OF JAPANESE MAPLES IN POTS (Ignoramus).—As they are deciduous, they should be procured in autumn, though many species and varieties are grown in pots for sale, and may thus be purchased at any season. If procured out of pots they should be potted in the size that will hold the roots comfortably, not potting them deeper than they have been in the soil before, draining the pots well, and placing a little of the rougher parts of the compost on it. They do well in any good loamy soil, or three parts turfy loam and one part leaf mould or thoroughly rotted manure, with a half part of sharp sand. Pot moderately firm, and plunge in ashes over the rims of the pots in a sheltered position outdoors where protection can be given in severe weather, or preferably place in a cool house, and if frost is not excluded, the pots must be protected, or preferably plunged in ashes, during severe weather. In February or March they may be placed in a greenhouse, or house with that temperature, and when in good growth they can be removed to the conservatory, or used for other decorative purposes. After about the middle of June the plants may be stood outdoors, plunging the pots in ashes, and there they may remain, with due attention given to watering and syringing, until the return of severe weather, when they are better removed to a cool house, and from this they can be placed in heat as required. It is better each year to stand the plants outdoors for a time, though this need not be done until their beauty under glass is on the wane, as the exposure hardens the wood. The thing is not to over-water, though affording due supplies, yet making the soil sodden and sour by needless supplies is a common error in the culture of hardy trees and shrubs in pots under glass.

NAMES OF PLANTS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (W. H. and S.).—*Dracocephalum nutans*. (F. J. P.).—1, *Genista hispanica*, or Spanish Broom; 2, *Corydalis lutea*. (J. S., Roundhay).—Your full address ought to accompany any communication to this office. The flower is an *Oncidium*. (W. B. P. G.).—1, *Prunus Padus*, the Bird Cherry; 2, *Magnolia acuminata*, the Cucumber Tree. (Edw. Smith).—The Kew authorities

state your flower to be a species of *Cypella*, but was too much withered for determination. (Sutton).—Kew authorities identify your flower as *Fritillaria pudica*, *Spreng.* (H. S. J.).—1, *Veronica gentianoides*; 2, *Achillea macrophylla*; 3, *Scilla nutans alba*; 4, *Ribes aureum*. (Zoe).—*Rhaphiolepis ovata* (syn. *japonica*), or Indian Hawthorn; 2, *Prunus Mahaleb*; 3, *Rhododendron amœnum*. (J. F. T.).—1, *Polygonum Bistorta*; 2, *Thalictrum aquilegifolium*; 3, *Allium triquetrum*; 4, *Ægle sepiaria* of gardens, but properly *Citrus trifoliata*.

COMMUNICATIONS RECEIVED.—J. A. Carnegie-Cheales, G. S., J. Watkins, S. A., G. P. M., Orange Judd Company, W. H. D., W. R. R., E. S., H. H. T., W. H. D., H. D., F. J. Nightingale, W. Ralphs, R. I. Lynch, J. Pegler, R. C., G. C., M. W. H., G. J. I., E. M., R. D., H. Pratt, A. M. C., J. T., J. B. (thanks for photo), C. J. Mee, Barr and Sons, H. S., J. P. H. Bewsher, A. O'N., H. E. K., H. H. R., F. H. K., T. A., W. G., H. D., J. M. R., D. C., E. M., W. J. M., R. P. B., G. H. H., W. N. B., Board of Agriculture, J. O.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick, height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1902.										
June.										
Sunday ... 8	N.W.	deg. 53.7	deg. 48.9	deg. 56.8	deg. 46.2	Ins. 0.01	deg. 57.5	deg. 56.5	deg. 53.2	deg. 43.9
Monday ... 9	N.N.E.	48.2	44.2	55.4	44.5	—	56.5	56.2	53.3	41.3
Tuesday...10	N.N.E.	49.9	43.8	57.7	38.2	—	55.0	55.6	53.3	29.6
Wed'sday 11	S.S.W.	55.3	48.9	59.7	48.3	0.02	55.8	55.3	53.3	38.5
Thursday 12	S.S.E.	52.6	50.2	55.8	49.8	0.33	56.6	55.5	53.3	45.5
Friday ...13	S.W.	53.8	51.8	54.1	50.5	1.00	55.9	55.2	53.3	50.0
Saturday 14	W.N.W.	49.9	48.3	55.1	47.7	0.40	55.0	55.0	53.3	46.8
MEANS ...		51.9	48.0	56.4	46.5	Total. 1.76	56.0	55.6	53.3	42.2

Very dull, cold, wet weather has been the prevailing feature of the past week, with a ground frost on the 10th inst. The rainfall for the month, up-to-date (fourteen days), is 3.25in., while the average for the previous three years for the whole of June was 1.72in.

Trade Notes.

Suttons' Gift of Seeds.

Messrs. Sutton and Sons, of Reading, have sent to us a box containing seed packets similar to those they have, and are still, sending to the British troops in South Africa. We find these boxes contain packets of the following vegetables: Vegetable Marrow, Cabbage, Lettuce, Onion, Radish, Turnip, Carrot, with Mustard and Cress; also one packet of *Coreopsis* and one of Sweet Peas, both in mixed colours.

Barker and Son's Sundial List.

It is the endeavour of the best gardeners not only to produce the finest vegetables and choicest fruits, but to develop the gardens under their control to their fullest outward interest and beauty. And to do so the able man judiciously includes a variety of architectural features, among which, as an almost invariable rule, a sundial is conspicuous. In this connection we would briefly draw attention in the present number to a firm who devote themselves to the making of sundials of all patterns, both ancient and modern. The name of the firm is Francis Barker and Son, and their address is at 12, Clerkenwell Road, London, E.C. Their list or catalogue is most interesting and tastefully produced, and while sundials do not compare with watches for accuracy, their ancient lineage and associations, their silent charms, and their own beauty, ought to ensure for them a place in every sunny garden or park. We have pleasure in commending the list we name, and trust that some of our readers may develop an interest in sundials and dialling.

Trade Catalogues Received.

Geo. Bunyard and Co., Ltd., The Royal Nurseries, Maidstone.—List of Strawberries, Summer Fruits, Grapes, Figs, Dutch Bulbs, and Carnations.
Frederick Cooper, Seed Grower, Wellington, New Zealand.—Whole-sale Price List of Seeds, 1902—1903.
J. Kingsmill, Nurseryman, Sharow, Ripon.—List of new Daffodils.



Turnips: Their Enemies.

Any non-agricultural person spending an hour or two in the dining-room of a rural hotel after the ordinary market about this time of year would, after taking careful note of the opinions expressed by the experts present, carry away with him the idea that the success of agriculture depended entirely on the Turnip crop. The exact acreage which each farmer has sown or has still to sow, the presence or absence of the dreaded fly, failures in germination from lack of moisture, lack of progress from too much cold and wet weather, are topics of never failing and absorbing interest. To one not acquainted with the methods and details of farming the growth of roots would be made to appear one of almost insuperable difficulty. Such, however, is very far from the truth. On all light and easily worked soils there should never be much doubt about success in growing Turnips.

The chief cause of failure is an unsuitable seedbed. If the Turnip, which is a bulb with a long tap root, cannot drive this root, which at first is as fine as a hair, deeply into the soil, there is produced the first condition of an imperfect plant. Strong land will produce very fine and heavy roots, but the difficulty lies in obtaining a plant, strong soils are so difficult to reduce to the condition which the embryo Turnip requires. The first necessity, therefore, is a finely divided seedbed, the second is that it shall contain a sufficiency of moisture to ensure germination. It must not be wet, and we should prefer that there should be no more moisture in the surface soil than will just start the seed. Then the young plant, putting forth its tap root and finding the surface soil dry, is attracted by the moisture which is to be found below, a strong deep root is rapidly formed, and subsequent surface droughts are successfully defied. If, however, the seedbed be unduly wet, and wet weather prevail for some time, the plant, finding a full supply of moisture ready at hand, instead of making one main tap root, emits a number of small rootlets which remain near the surface, and at the first appearance of drought fail to support the plant, which for want of proper nourishment becomes unhealthy and a prey to Aphis weevils or caterpillars. Too much can hardly be said on this particular point.

The insect enemies of the Turnip do little harm to a healthy plant, which is only to be obtained by drilling the seed in a warm and semi-dry but fine soil. The common Turnip, under favourable conditions, will push through the soil in about ninety hours from sowing. Swedes are not often through before the sixth or seventh day. As soon as they are up the trials of the young plants begin. The Turnip fly is the first and most general pest. It does the most harm on land liable to crack through drought. The fly when not consuming the young leaves takes refuge in the cracks. Much greater damage is done by the fly when the seed has been thinly sown. Now labour is scarce, farmers are anxious to make work as light and easy as possible, and therefore are somewhat afraid of having too many young Turnips to thin out. Two pounds of common Turnip seed is an average quantity to sow per acre, but hundreds of farmers only sow 1lb. It is not so much the wish to economise seed, though this may not be uncommon in these difficult times, and it is not that the plant is any better for having plenty of room at first, but this thin sowing is almost entirely attributable to the labour question. Of Swedes many farmers only sow about 1½lb, whereas we seldom put on less than 3½lb. We have in wet seasons sometimes had difficulty in reducing the plant to reasonable dimensions, but during many years have not had more than an acre or two missing out of an acreage varying from eighty to one hundred. The Turnip fly only eats the first young leaves of the plant. Although it attacks the second rough leaf it never makes much headway with it, and the farmer who sees his crop well advanced into second leaf may consider it safe from the fly.

The Diamond-back Moth, though, fortunately, of but rare occurrence, is most destructive when it does attack. It may be first noticed flitting from plant to plant when disturbed, and has made its visits hitherto during the month of July. The eggs, laid on the under side of the leaves, soon hatch, and commence operations by eating the leaves wholesale, leaving nothing but skeletons or stumps. The attack often occurs after the Turnips have been singled, and is then the most serious, as the supply of food being less, the whole is sooner consumed. Farmers must always be on the look out for these moths, and directly they appear, all singling of Swedes must at once be stopped. The attack does not last many days, and when it is over those plants which have suffered the least injury can be left to form the crop. The Diamond-back does little harm to common Turnips.

The Turnip has two other deadly enemies, the Finger-and-toe disease and the blue Aphis. The former is common to certain soils and fields, and is aggravated by growing Turnips too often. It is caused by a want of lime in the soil, for at any rate the application of lime is the only cure except the abandonment of Turnip growing. It is closely connected with the four-course system, and when an extended and more varied rotation is introduced it soon disappears. Under the old system, when it was made compulsory, we have seen Finger-and-toe occur and re-occur every course in exactly the same portions of a field, and apparently neither spreading nor diminishing; so in applying lime, if note has been previously taken of the position of the affected portions of a field, there is no absolute necessity that the other portions of the field be dressed at all; but on land where Finger-and-toe appears, lime is very beneficial to the Clover crop. Some people use three or four tons of lime per acre, but we would rather use two and repeat the dose next time round.

In seasons when wet conditions during the early stages of growth have produced a surface rooted weakly plant, a continued spell of hot weather early in September will so stop its growth that mildew will appear to be followed by myriads of Aphides. They fairly smother the leaves, and are often called by farmers smother-fly. Nothing can be done except pray for heavy rain to wash it off. A Swede which has been badly attacked by this Aphis rarely makes much more growth, and is of little use as food. The one thing in the way of manure which is necessary to these roots is phosphate of lime; this extends to all classes of soil. Three to six cwt. per acre of superphosphate should be applied to every Turnip crop.

Work on the Home Farm.

Except for a few showers we have had a fine week, and are once more drilling Turnips. We started one day too soon; the surface had not dried sufficiently, and we fancy that day's work will be well marked throughout the life of the crop. The earlier sown roots are all up and look fairly, but we have seen them grow faster. The heavy thunder rains soddened the ground, which has baked a little. We must have the horse hoe at work at once to let air into the soil. There is a good deal of work amongst Mangolds now. The weeds grew very fast, and although the skerry has destroyed the greater part between the rows, a great many are left. The Mangolds are somewhat smothered, but not yet ready to single. They must have more air, so they must be closely side-hoed. A few were done before the skerry went through them. They are much better than the others, and an object lesson to note for the future.

Barley still looks splendid, a few patches here and there are swayed over, but they will get up again with the fine weather. A visit to a friend a few miles away revealed his Barley which is on heavier and colder land, looking decidedly yellow. "Too much rain!" said he. How true again what is meat for one is poison for another. A little observation during recent journeys has revealed a decided shortage in the Wheat area as regards this and contiguous districts. No doubt many Wheat fields have been ploughed up and sown with Barley, which is very largely sown this year. Oats seem to be no more than an average, if that.

Clover will soon be ready to mow, but alas! many pieces are too thin of plant to cut up heavy crops. These being mostly Rye Grass will have to be cut soon. Well-planted pieces have done very well, but are still full of growth, and will not be in flower for a fortnight. Cabbage sown in mid April are ready to transplant, and the ground being ready, will be got out as soon as possible. They will be useful for the ewes in lambing time. Some prefer to let them stand where they are, but transplanted ones grow bigger and keep better, at least we think so. Of course they will be put well down in the soil.

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Grand New Climbing Rose DOROTHY PERKINS.

The Floral Committee were unanimous in giving this an AWARD OF MERIT when shown by me at the Royal Horticultural Society's Meeting at the Drill Hall, on May 20th.

See Report in this Paper of May 22nd.

This beautiful novelty is a hybrid between Rose Wichuriana and Madame Gabriel Luizet; the flowers are produced in large clusters of a lovely shell-pink with white centre. Besides being a good climber, it can be grown as a fine pot plant.

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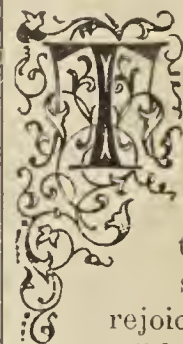
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Journal of Horticulture.

THURSDAY, JUNE 26, 1902.

Coronation Day.



THE world grows old, and as it grows the foremost nations of the earth find heaped upon their shoulders responsibilities, which fully test the mettle of the stoutest hearts. Days of sharp struggles, of darkness, and of rejoicing, follow each other with bewildering uncertainty, and at rare intervals marked in letters of the brightest red, a day of "surpassing importance" is recorded on the scroll of time. To-day in the greatest metropolis of the world the curtain will rise and reveal a scene of unparalleled splendour; and never since the *Journal of Horticulture* began its honoured career has its weekly issue been sent forth to the world on a day (June 26) of such vast importance. The significance of the occasion cannot alone be gauged by the fact that it is Coronation Day, but also because the "crowning of the King" will take place, when Peace and gladness are in the hearts of all, a Peace which has been hardly won after the greatest struggle in the history of the nation, a struggle which has proved the strength of the Empire, and has drawn closer the ties which unite the vigorous children to the Motherland. To the whole world stands revealed the fact that

When the foes of Britain assail her, her sons across the sea
Rise in their splendid vigour, to aid the grand old tree.

The representatives of those vigorous sons will, in mighty London to-day, stand side by side with the indigenous soldiers of the King, and statesmen from every corner of the Empire will join in the universal acclamation. The days and weeks which follow the exchange of ideas between the numerous members of the great family gathering will

READERS are requested to send notices of Gardening appointments or Notes of Horticultural Interest, intimations of Meetings, Queries, and all Articles for Publication, officially to "**THE EDITOR**" at 12, Mitre Court Chambers, Fleet Street, London, E.C., and to no other person and to no other address.

undoubtedly be fraught with far-reaching consequences in the future, and the beginning of a reign ushered in with so many propitious circumstances should augur well for our future peace and prosperity. The ceremony of Coronation will doubtless be both solemn and impressive, and the subsequent pageant one calculated to engender spontaneous patriotism, as well as to show the resources of the Empire.

I think it may be truthfully said that gardeners, as a body, are capable of taking a broad view of things in general, as they are habitually inclined to look forward and grasp the significance of passing events. Many who pursue our ancient art will doubtless swell the stream of sightseers, and among the millions who stand in London to-day none will be more loyal and enthusiastic than the gardeners of Britain. Hosts of gardeners will necessarily be kept at home, on account of the festivities which will take place on the estates, or in the districts in which they reside, and many of them on such occasions prove a tower of strength in carrying out the arrangements, and by providing suitable decorations adding to the enjoyment of the hour. The decorations along the principal streets of the Metropolis will, of course, be on an elaborate scale, and as extraordinary efforts have been made to create distinct features, and make each a real work of art, those gardeners who are able to see them will have the opportunity of carrying into various parts of the country many new ideas in connection with such work. For this reason it is a pity that every gardener cannot see some of the best examples of the work. Perhaps the editor of "Our Journal" (which is essentially a gardeners' paper) will, in an early issue, be able to give us a minute description of some of the acknowledged triumphs as seen on Coronation Day.

King Edward VII. and Queen Alexandra are generous patrons of horticulture, and wherever they have taken up their abode, there has gardening expanded and progressed. Great as the reputations of the gardeners connected with Windsor Castle have been in the past, their fame will assuredly be increased in the future. When Royalty sets the fashion in this respect, progress and advancement are the order of the day throughout the land, and when this is taken in conjunction with the more prosperous times which seem at hand, gardening must inevitably be stimulated in a marked degree, and, let us hope, the prospects of gardeners correspondingly increased.

To men, women, and children of every class Coronation Day should bring thoughts of wonder and admiration, as well as thankfulness, for is it not patent to all how small a speck is Britain when traced upon the map of the world? yet from this sea-girt land have gone forth sons and daughters, who have founded colonies in almost every quarter of the globe. These have so flourished that to-day they stand in solid unity, and form an Empire which for vastness, strength, and equity the world has never before seen. A great prayer should go up that a reign which begins amid so many splendid advantages should, before its close, carry us onward to still higher ideals. When the shouts of "God Save the King!" have died away, let us all remember we are children of the Empire, who have our parts to play in moulding its future course. Let us therefore "press onward."—A LOYAL SUBJECT.

[Many of the above expressions still hold good despite the lamentable illness of the King and the postponement of the Coronation, except that referring to the reproduction of the decorations, which were not completed.—ED.]

Plas-y-Bryn, near Carnarvon.

At this place the Strawberries are worth seeing, many fruits measuring 7in round, and are beautifully finished. They are the finest I have ever seen in pots, and the variety is Royal Sovereign. In the Peach house there is quite a display of Cinerarias, about 100 plants in all, each well grown, and many have heads of bloom 15in and 18in across. These are from Messrs. Sutton's strain. The new flower garden with fountain is a great improvement. The beds are gay, and contained Hyacinths and Tulips in May. Although it is only a little over twelve months since Mr. G. Tyler took charge of this place there has been a great improvement all round, the shrubberies having been seen to and the commoner trees taken away to give light and air to others. Abies Douglasi is doing well, and is shown off to an advantage by the side of a new walk. In the fruit room are still fine examples of Lane's Prince Albert, Bramley's Seedling, and Wareham Russet Apples. Anyone interested in gardening would not regret visiting Plas-y-Bryn, which Mrs. J. W. Jones takes a deep interest in.—WELSHER.



Phalaenopsis Schilleriana.

With reference to the splendidly flowered specimen of *Phalaenopsis Schilleriana* figured on the opposite page, "W. G." writes: "It has occurred to me that the photograph of a fine specimen of *Phalaenopsis Schilleriana*, when grown by Mr. Fred Schobs, of Brooklyn, N.Y. State, some thirteen years ago, would be sufficiently interesting for reproduction in the Journal. Mr. Schobs was one of the leading Orchid owners of New York, and was designated the Partington of America. The plants were only three years old when the photographs were taken, and the luxuriance of the plants practically demonstrates the beneficent use of liquid cow manure, which was freely applied when they were in an active growing state. One of the plant's flower spikes was 3ft in height. Some of the leaves were 15in long, and of robust substance. The photographic reproduction alone, however, sufficiently portrays the extraordinary vigour and floriferousness of the specimens in question. Several years ago Mr. Gardiner retired from the profession, and is enjoying a well-earned increment, cum otium dignitate, at Worthing, Sussex.

The Week's Cultural Notes.

It has been difficult of late, owing to the cold damp weather, to keep up the brisk, buoyant heat in the East Indian house that *Phalaenopsis* and similar Orchids delight in. Although in most cases we have to shut out the sun by means of blinds, yet the atmosphere is never the same in dull or wet weather, fire heat not serving the same purpose by any means. At the time of writing there seems a probability of brighter weather, and if this comes, an improvement in condition will soon be manifest.

On bright sunny mornings the ventilators should be opened very early in order to change the air, and the fires kept low. When the temperature has risen a few degrees from that of the night the house should be thoroughly damped, floor, stages, walls, and all dry places coming in for a good soaking. A nice, genial, growing atmosphere is thus set up early in the day, refreshing and stimulating to the plants, and helping them to withstand a drier atmosphere should this be unavoidable later in the day. As the heat rises the ventilation must be increased, so that by or near ten o'clock the maximum for the day is reached, the blinds having meanwhile been lowered on the eastern side of the house.

There may still be a little repotting and top-dressing to see to in this house, but it should not much longer be delayed. Plants disturbed at the roots after this do not again become well established before autumn, and consequently are apt to suffer in winter. All the small growing *Angraecums*, such as *A. modestum*, the dwarf *Saccolabiums*, *Sarcanthuses*, and others, should have the benefit of the lightest part of the house, being suspended near the glass in baskets. The lower stages may be given up to larger growing tropical kinds, such as *Angraecum sesquipedale* and various *Aerides* and *Vandas*.

Any of the latter that have become lanky and bare of leaves at the bottom may be improved by being cut off just at a suitable height and replanted in sphagnum and charcoal. Many growers do this annually with *Vanda teres* and *O. Hookeriana*. But in cases where a less drastic mode is desired the same effect can be attained by lowering the plants in the pot and mossing the stems higher. This has often the effect of causing new roots and sometimes growth shoots from the old and lately barren stems.—H. R. R.

Lavender Culture.

The introduction of Lavender into England is due to the Huguenot refugees, who settled in the valley of the Wandle; and Lavender Hill, Lavender Sweep, and Lavender Road, in the neighbourhood of Wandsworth, London, attest the popularity of the plant. It is still largely cultivated in Mitcham, Carshalton, Wallington, and Beddington, but all Surrey Lavender comes under the name of Mitcham Lavender. English Lavender commands the best price in the market, but it fluctuates considerably. It has been down as low as 29s. per lb, but, on the other hand, it has been sold at 54s., and, indeed, has reached the high price of 200s. per lb.

The Colorado Beetle.

This Potato pest, *Doryphora* (*Leptinotarsa*) *deceimlineata* (Say), is a beetle now also known as *Leptinotarsa*. This genus seems to be tropical, Central America being its apparent home, although some species, including the Colorado Beetle or Spearman occur in North America.

The adult female beetle is a little under half an inch in length, the male being slightly smaller than the female. In colour the beetle is yellow, with five longitudinal dark lines on each wing case; the legs are reddish with dark knee spots and feet; the yellow mesothorax has also a few dark spots and a more or less irregular V-shaped mark in the middle; the wings have a peculiar rosy hue, which is particularly noticeable when the beetle is flying in the sun. The adult hibernates during the winter months under any rubbish it can find, but especially buried beneath the surface of the ground. Its general depth in the soil during the winter seems to vary from a few to 24 inches. Riley says it has been exhumed from a few inches to several feet, though its habit is not to burrow deeper than 10in.

The beetles come from their winter quarters when the weather becomes warm in spring. They are capable of flying some considerable distance, especially taking wing readily in the early part of the year. The warmer the day the more willingly do the insects fly.

The eggs are elongated oval in form, of an orange colour, and are deposited in clusters of from nine to forty. They seem to be nearly always placed on the under side of the leaf, and are attached to it by one end. They resemble the ova of some of the *Coccinellidæ* or ladybirds, but are much larger than those of any of our native species. Riley says they hatch out in less than a week; those under observation were kept ten days before the larvæ came out. The females commence to deposit their eggs when the plants are quite young. The young larvæ are of a dull reddish-brown colour, and bear some resemblance to the larvæ of ladybirds. As they grow they become paler in colour, varying from dull brick-dust red to almost orange in hue, with the head, legs and posterior part of the first segment black, and with two lateral rows of black tubercle-like spots, the upper row being the largest and composed of seven spots. As the larvæ become mature, the body is somewhat swollen and more or less arched, the apex terminating in a kind of sucker, the upper part of the two apical segments being black. When full grown the larvæ is rather more than half an inch long when extended.

The leafage is devoured very ravenously at times by the larvæ, which attach themselves to both upper and under sides and the edges of the leaves. They are also said to feed on the stalk, so that the whole Potato haulm is attacked. When mature, the larvæ fall to the ground and burrow under the soil and there pupate. In America this stage seems to last a week, for Riley, after stating that the larvæ mature in from two to three weeks, says "the beetle stage is assumed in about a month from the time of hatching." How many broods might appear in Great Britain is not known. As many as three are observed in North America, and there is no reason why three broods should not also occur in this country, as the larvæ seem to grow very rapidly.

When the weather commences to become cold in the autumn the beetles bury themselves in the earth, where they shelter during the winter, as well as amongst rough herbage and under rubbish of all kinds. The beetles are extremely hardy, and can withstand a large amount of rough usage. Both larva and adult can eject a dark fluid, which is thought by some to be poisonous, but which seems quite innocuous.

Its Food Plants.

There is no doubt that when pressed for food this beetle will take to a great number of plants besides the Potato. In its

native home it mainly feeds, under natural conditions, on two wild species of *Solanum*, *S. rostratum* and *S. cornutum*. The *Solanaceæ*, or Nightshade and Potato family, form its staple diet, especially the genus *Solanum*. The other species upon which the larvæ have been found in America are the following: The common Horse Nettle (*S. Carolinense*), found in Missouri and east of the Mississippi; *S. robustum*, *S. discolor*, *S. Sieglingi*, and *S. Warscewiczii*.

The closely related Tomato (*Lycopersicum*), the Thorn Apple (*Datura*), the Henbane (*Hyoscyamus*), the Tobacco plant (*Nicotiana*), the Apple of Peru (*Nicandra*), the Ground Cherry (*Physalis*), Belladonna, and Petunia have also been recorded as nourishing this pest, but upon scarcely any can it flourish except the Tomato.

Various Poppies, especially the Mexican or prickly Poppy (*Argemone Mexicana*), also serve as food plants in America. From the States it has also been recorded feeding on the following: The Pigweed (*Amaranthus retroflexus*), the Hedge Mustard (*Sisymbrium officinale*), Oats, Smart-weed (*Polygonum hydropiper*), the Red Currant, various Thistles, Goosefoot (*Chenopodium hybridum*), Thorough-wort (*Eupatorium perfoliatum*), the European Black Henbane (*Hyoscyamus niger*), and the Mullein (*Verbascum*).

Grasses and other weeds have been known to harbour the larvæ. In some allotments at Tilbury Docks, where in 1901 an isolated colony of these beetles was found and destroyed,

the larvæ were observed feeding on Woody Nightshade, Cabbage, and Thistles, whilst the eggs were found in one case on the Sowthistle (*Sonchus*). It thus seems that although members of the genus *Solanum* are its chief diet, especially the cultivated Potato (where its original food plants do not occur), both larvæ and adults can feed on a variety of other plants, preferably devouring the young leaves.

Its Natural Enemies.

A great number of natural enemies tend to check the beetle in America. Amongst these are birds which feed upon both larvæ and adults, especially the rose-breasted grosbeak (*Guiraca ludoviciana*). Both ducks and chickens, but especially the former, devour the larvæ. The toad in America (*Bufo Americana*) gorges itself with the grubs, and probably our British species would do the same.

Very numerous are the insect enemies recorded by Riley, especially amongst the beetles or Coleoptera, and the bugs, or Hemiptera-heteroptera. Strange to say, no members of the Hymenoptera, the order that contains so many parasites, are

actually parasitic on *Doryphora*; a single species of wasp (*Polistes rubiginosus*), however, occasionally provisions its nest with the larvæ.

Whilst examining the allotments at Tilbury, the large seven-spotted ladybird (*Coccinella septem-punctata*) was noticed in considerable numbers both in adult and larval stages. The larvæ were seen in one instance devouring the eggs of the Colorado beetle, and when placed in a box with some ate them ravenously. Thus in the short space of time in which this Potato pest existed in this country it found one natural enemy which, on account of its ravenous nature, could not but help materially in checking its increase.

The pupa of the ladybird is orange with black marks and spots, and resembles very closely the small grub of the Colorado beetle. A small Hemipteron, a green *Nemocoris* (?) was also seen wandering about amongst the larvæ, and may have been feeding off them, sucking out the body juices in the same way as several species do in America.

If this beetle is found it is important to remember that, under the terms of the "Colorado Beetle Order, 1877," notice must be given at once to a constable. The constable is then required to communicate immediately with the local authority, who shall forthwith give notice by telegraph to the Board of Agriculture.—4, Whitehall Place, London, S.W., March, 1902.



Phalænopsis Schilleriana.

Coronation Rose Show and Conference.

By way of celebrating the Coronation year of our greatly honoured Sovereigns, King Edward VII. and Queen Alexandra, the Royal Horticultural Society inaugurated a great Rose exhibition and conference, which event has to be duly recorded as one of the leading features in the London programme of public celebrations during this present memorable week. Tuesday and Wednesday were the days set apart for the organisation, and Earl Ilchester's beautiful park at Holland House, Kensington, was the scene of the meeting. On the opposite page we illustrate a view of this historical mansion, one of the most renowned in or around the metropolis, and to which we directed attention in our Spring Number in March, 1901. The president of the conference again on this occasion was the Very Rev. S. Reynolds Hole, Dean of Rochester, who is the father and president of the National Rose Society, the metropolitan exhibition of which will be held next week in the Inner Temple Gardens, on the Thames Embankment.

It is thirteen years ago since the great National Rose Conference was held, this, too, being under the ægis of the Royal Horticultural Society. The venerable Dean was then, as now, the guiding light in the proceedings, and Mr. William Paul, of wondrous vitality, contributed of his well of rosarian lore, as he has done at this latest meeting. Nearly all of the supporters of that first conference in 1889 are still enjoying the blessings of strength and health; but two, at least, have left the Roses of earth, each of them men of ardent sympathy, the elder being the Right Hon. Lord Penzance, and the other Mr. T. W. Girdlestone. That conference was undoubtedly of exceedingly great value from many points of view. It gave an impetus to Rose culture, it systematised the aims of the body of rosarians, and directed their efforts to new lines; and, besides furnishing a new classification of Roses, it brought together the best knowledge both of botanists and practical Rose growers. Undoubtedly the greatest development since 1889 has been among the Decorative Roses, especially the Rambler and pillar sorts, whose charms are many and well appreciated. The Wichuriana Rose has furnished a train of forms, and the numerous crosses with this and *R. rugosa* are not without interest. The possibilities of this creeping Rose, when bred with the Rambler, too, has lately been shown to advantage in the variety Dorothy Perkins, and, as represented by an American novelty, staged by Mr. Donald, of Boston, at this present meeting. And no finer cross has been made than the somewhat tender *Rosa lævigata* bred with the China Rose, *R. indica*. In 1889 *Rosa lævigata* was almost a total stranger in our collections, and it is not at all common now.

The first day of the exhibition brought as perfect June weather as the most exacting could well have desired. Perhaps the sun's heat was a trifle too strong, but the cool green grass and sylvan surroundings gave a measure of relief under the circumstances. Inside the huge tents there was ample space for everybody, and exhibitors widely took advantage of it in arranging their groups. Never before have we seen better arranged groups than those in the largest tent of all, where the renowned plant-growing firms had their contributions. Set as they were on the smooth grass, their choicest subjects were seen all under the eye, and to the very best advantage. Orchids were less numerous than at the Temple Show in May, but all the great houses had representative collections. Messrs. Hill and Son arranged choice exotic Ferns, and out of doors there were selections of shrubs and cut bushes.

Messrs. Sutton's Gloxinias, under their glass case and awning, was quite a novel and interesting feature. Roses, as might have been expected, were exceedingly poor, and two sides of a table in one long tent held the whole of the entries. Hardy flowers, Aquilegias, Begonias, and Sweet Peas were among the other features most numerous shown. Though there were a large number of awards by the committees, yet nothing of outstanding merit was seen. Perhaps where everything was of such great excellence it is unfair to expect any one subject of

surpassing quality. The efforts of the Council were, however, happily crowned with unqualified success so far as the exhibition and the conference was concerned, though at the moment when these lines were written the attendance of visitors appeared indeed meagre. The band of the "Blues" was in attendance, but, owing to the bad news, it did not play.

At 1.30 p.m. on Tuesday the Council entertained the judges, committees, and friends to luncheon, when J. Gurney Fowler, Esq., the treasurer, presided, in the absence of Sir Trevor Lawrence, who had accepted an invitation to dine with the Earl of Ilchester. The Earl's beautiful garden and grounds were open to inspection by the visitors on payment each of one shilling. The money thus taken is to augment the funds of the two gardening charities—the Gardeners' Royal Benevolent Institution and the Royal Gardeners' Orphan Fund, respectively. We were well satisfied to learn that so much as £10 was taken during the luncheon hour alone, and a goodly sum might thus be expected for the two days. Owing to Coronation Day arrangements, the greater part of our report must be held over till next week.

At the afternoon conference, the painful intelligence in regard to King Edward's health was broached in the sympathetic reference, and the following message was despatched to Queen Alexandra from the Society:—

"That this meeting of Rosarians and Fellows of the Royal Horticultural Society wish to express their heartfelt sympathy to Her Majesty the Queen and the members of the Royal Family in the illness of His Majesty the King, and their greatest desire for his speedy recovery."

The Dean of Rochester added a few words after Sir Trevor Lawrence had read the above message.

Medals.

GOLD to Messrs. Sander and Sons for Orchids, new and rare plants; Messrs. J. Veitch and Sons, for greenhouse plants, Bamboos, and Aquilegias; Mr. Jas. Cypher, for decorative plants; Messrs. B. R. Davis and Sons, for Begonias; Messrs. T. Rivers and Son, for fruit trees in pots; Messrs. Wallace and Co., for Lilies, Pæonies, Calochorti, and Irises; Messrs. Cutbush and Son, for flowering plants and clipped trees; Martin R. Smith, Esq., for Carnations.

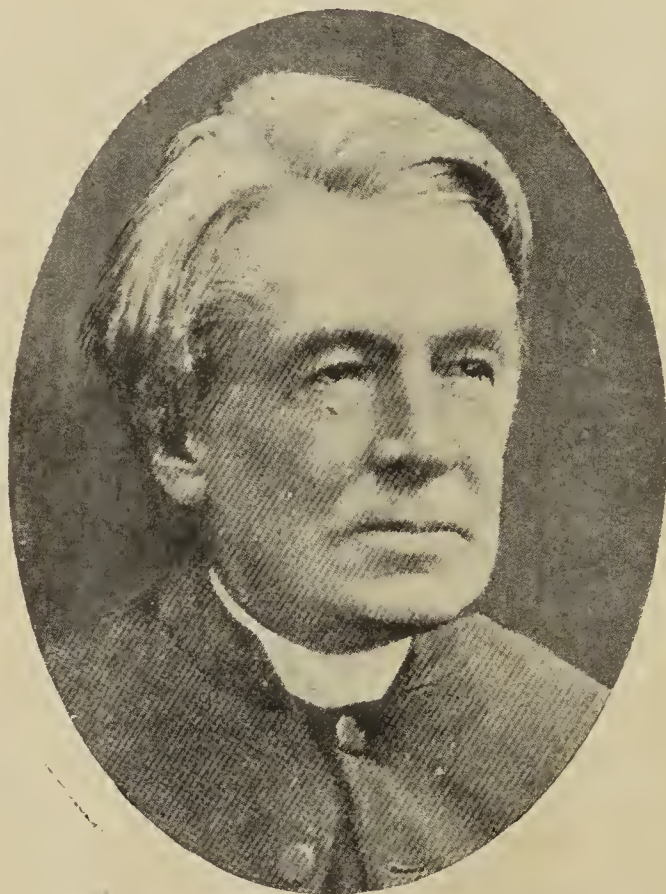
SILVER CUPS to Messrs Cannell and Sons, for Cannas and Aquilegias; Messrs. Barr and Sons, for hardy flowers and pigmy trees; Messrs. Carter and Co., for Gloxinias and vegetables; Messrs. Fisher, Son, and Sibray, for stove and greenhouse plants; Messrs. J. Hill and Son, for Ferns; Messrs. G. Bunyard and Co., for pot fruit trees and cut flowers; Messrs. Charlesworth and Co., for Orchids; Messrs. J. Cheal and Sons, for flowering shrubs; Messrs. Amos Perry, for hardy flowers and aquatics; Messrs. J. Waterer and Sons, for Rhododendrons and Kalmias; Sir F. Wigan, Bart., for Orchids; Messrs. Blackmore and Langdon, for Begonias; Messrs. Dobbie and Co., for Pansies and Aquilegias; Messrs. Cripps and Sons, for Japanese Maples.

SILVER-GILT FLORA to Messrs. J. Laing and Son, for miscellaneous plants and shrubs; Mr. H. B. May, for Ferns and flowering plants; Mr. John Russell, for hardy trees and shrubs; Messrs. H. Low and Co., for Orchids and miscellaneous plants; Messrs. W. Fromow and Son, for Japanese Maples and Lilium; Mr. M. Prichard, for hardy flowers; Mr. J. Colman, for Orchids and stove plants; Messrs. J. Cowan and Co., for Orchids; Messrs. Stanley, Ashton, and Co., for Orchids; Messrs. Sutton and Sons, for Gloxinias.

SILVER-GILT KNIGHTIAN to Mr. S. Mortimer, Farnham, for Tomatoes, Melons, and Cucumbers.

SILVER FLORA to Messrs. J. Peed and Sons, for Gloxinias and Begonias; Messrs. Kelway and Sons, for Pæonies and Delphiniums; Messrs. Jones and Son, for Irises and Sweet Peas; Messrs. G. Jackman and Son, for herbaceous and Alpine plants; Messrs. T. S. Ware, Limited, for herbaceous and Alpine plants; Mr. Reamsbottom, for Anemones; Messrs. B. S. Williams, for hardy flowers.

SILVER BANKSIAN to Messrs. Paul and Son, for cut flowers; Mr. H. J. Jones, for Begonias, Pelargoniums, &c.; Mr. R. C. Notcutt, for *Arctotis grandis*; Mr. A. W. Wade, for hardy



The Very Rev. the Dean of Rochester,
President of the Rose Conference.

flowers; Mr. W. Iceton, for Lilies of the Valley and flowering plants; Mr. A. Watts, for Sweet Peas and Lilies; Mr. Percy Waterer, for Sweet Peas; Mr. W. J. Godfrey, for Oriental Poppies; Mr. R. Sydenham, for Sweet Peas.

The Orchid Committee recommended eighteen awards, comprising six first class certificates, ten awards of merit, and two cultural commendations. The Floral Committee recommended one F.C.C., and seven awards of merit. In Class 23 of the Rose competition (the report of which we are obliged to hold), two gold medals were awarded for new Roses, one to Messrs. Frank Cant and Co., for H.T. Lady Roberts, a lovely introduction; and to Messrs. Paul and Son, for a "Weeping rugosa alba." These will be described in our next.

A1, Princess of Wales, Golden Perfection, Winter Beauty, Duke of York, Best of All, and Perfection were some of the best.

Messrs. G. Bunyard and Co., Maidstone, arranged a group of flowers and fruit. The latter comprised a collection of Cherries in pots, Apples, and baskets of Cherries. The latter were very good, especially Early Purple Guigne, Governor Wood, Noir de Schmidt, and Elton Heart. The Apples appeared as fresh and sound as ever. The flowers comprised a good collection of rock plants tastefully arranged, while Rhododendrons, Irises, and a variety of other hardy subjects comprised the display.

Plants and Flowers.

Mr. H. B. May, Upper Edmonton, had an extensive exhibit of Zonal Pelargoniums, Ferns, Crotons, and Bamboos. The



View of Holland House, the Seat of the Rose Conference.

Fruit and Vegetables.

Messrs. T. Rivers and Son, Sawbridgeworth, again staged one of their grand collections of fruit trees in pots, which comprised Cherries, Plums, Peaches, Neectarines, and Figs. The Cherries were in grand health, and carrying heavy crops. Empress Eugénie, Guigne, Anouay, Elton, May Duke, Lewis de Burr, and Early Rivers were most noteworthy; the Cardinal Neectarines, Princess of Wales Peaches and Plums, Curlew, Blue Roek, and Golden Transparent, being especially fine.

From Mr. S. Mortimer, Rowledge, Farnham, came a good collection of Melons, Cucumbers, and Tomatoes. The Melons included good fruits of Royal Favourite, Excellent, Advancer, Ne Plus Ultra, and Baden Powell. The boxes of Cucumbers were British King, Tender and True, and Express. Tomatoes were excellent; Holmes' Supreme, Peach Blow, Hipper I., Sutton's

bright flowers of the Zonals were counteracted with a pleasant foil of Ferns. The Ivy section was represented by well flowered plants of Achievement, Mrs. W. H. Martin, The Queen, Leopard, Resplendent, and Col. Baden Powell. Conan Doyle, Oliver, J. M. Barrie, Mark Twain, Lord Kitchener, Californie, and Madame Carnot were the most notable Zonals. Needless to say, the Ferns, Draeænas and Crotons were all choice specimens.

Messrs. Sander and Sons, St. Albans, had a few choice specimen foliage plants, Heliconia Sanderi being effective, and a well flowered plant of Acalypha Sanderi alba attracted much attention. Linospadix Micholitzii was in capital condition.

From Messrs. H. Cannell and Sons, Swanley, came a large exhibit of hybrid Aquilegias, staged in large vases, the range in colouring being really remarkable, while the bunches, as arranged, demonstrated their value for decorative purposes.

Messrs. B. R. Davis and Sons, Yeovil, arranged a glorious bank of double and single Begonias. The flowers were large and fresh, the doubles being excellent, the small Ferns and Palms employed giving it a good effect; altogether a grand exhibit of this flower.

Mr. H. J. Jones arranged a miscellaneous group of plants and cut flowers. The Spiræas were effective, and the Ivy-leaved Pelargoniums formed a feature. Achievement, Queen Alexandra, Mrs. Gulliver, The Queen, The King, and Mrs. W. H. Martin were the best. The cut Pelargoniums included some of the most modern. Carnations, Zonals, and foliage plants completed the display.

Sweet Peas came from Mr. Robert Sydenham, Tenby Street, Birmingham. The bunches being lightly arranged with Maidenhair Fern. Some of the best were Lady Mary Currie, Blanche Burpee, Salopian, Black Knight, Miss Wilmott, Sadie Burpee, and Prince of Wales.

Mr. W. J. Godfrey, Exmouth, made a pretty exhibit of Oriental Poppies, arranged with Asparagus Sprengeri, which gave them quite a chaste appearance.

From Messrs. J. Laing and Sons, Forest Hill, came a large exhibit of hardy flowers, in which the rock and Alpine plants formed a big feature, the baskets containing such plants as *Thymus coccineus*, *Armeria maritima alba*, *Achillea tomentosa*, *Agrostemma flos-Jovis*, and *Dianthus arenarius* were very good. A group of Malmaisons were also noteworthy. A collection of single and double Begonias were also staged. Gloxinias and Streptocarpus of excellent strains, and a good table of Caladiums and Darlingtonias, completed the exhibit.

A very bright and attractive exhibit came from Messrs. B. S. Williams and Son, Upper Holloway, consisting chiefly of cut flowers and three groups of Verbena Miss Wilmott in pots. The cut flowers were Spanish Irises in great variety, Ixias, Anemones, Ranunculuses, and Gladioli.

Messrs. Carter and Co., High Holborn, presented a large exhibit of Japanese dwarf trees in a very healthy state, also a collection of vegetables, the Cucumbers, Tomatoes, Carrots, and Potatoes forming the chief items. A capital collection of hardy cut flowers, which included Irises, Pyrethrums, and Delphiniums, while mention must be made of the large display of rock plants which were effectively arranged.

Mr. Percy Waterer, Fawkham, Kent, arranged a pretty exhibit of Sweet Peas, in which Ethel, Fire King, C. E. Wilkins, Purity, and Countess of Powis were conspicuous amongst the several varieties employed.

Hardy flowers, rock and Alpine plants, came from the Misses Hopkins, Mere, Knutsford, who had arranged them effectively.

Messrs. Kelway and Son, Langport, made a grand display of Pæonies and Delphiniums; the former included good bunches of E. T. Cook, Portia, General Buller, Queen Victoria, Sultan of Perak, and Doris. The most conspicuous Delphiniums being Duchess of Devonshire, Sceptre, Captain Lambton, Prince Romatsu, Lord Chesham, and Earl Roberts.

Mr. Robert Greenfield, jun., Ranelagh Nurseries, Leamington Spa, exhibited plants of Asparagus myriocladus, which appears to possess considerable value as a decorative plant.

Messrs. Barr and Sons, King Street, Covent Garden, arranged the whole side of one tent with hardy cut flowers. The Irises of the Spanish type were beautifully arranged. Single and double Pæonies were staged in great quantity. Oriental Poppies mixed with *P. nudicaule* formed quite a Coronation patch, while almost every other hardy plant in flower at this season was represented. The same firm also staged an extensive collection of pigmy trees, which appeared popular with the visitors.

Messrs. Paul and Son, Cheshunt, arranged a beautiful exhibit of garden Roses, in which the weeping *Rugosa alba*, Leuchestern, Wichuriana, Rene Andre, Purple East, Rosa sinica Anemone, Paul's Carmine Pillar, and Tea Rambler were conspicuous, the groundwork being filled in with vases of decorative varieties.

Mr. William Icton, Putney, made a good display of decorative plants and retarded flowers. The huge bank of Lily of the Valley excited general admiration, while the plants of *Hydrangea paniculata* and *Lilium longiflorum* were excellent.

Mr. C. Blick, gardener to Martin R. Smith, Esq., Hayes, Kent, arranged a glorious group of Carnations in pots, perhaps the finest ever staged from Hayes. Not only were the flowers exceptionally fine, but the grass was as dense and as remarkable as the flowers. The best varieties were Cecilia in grand form, Dandols, Lord Rosebery, Sarah Bernhardt, Nautilus, Dragut, and Othello.

From Messrs. J. Peed and Son, West Norwood, came a collection of single and double Begonias. The plants were in capital condition, and well displayed with Ferns and foliage plants.

Messrs. H. Cannell and Sons, Swanley, again demonstrated the value of the Canna by a grand group. The plants were all in 5in and 6in pots, and carried large heads of bloom, Mrs. G. A. Strohle, Elizabeth Hoss, Gloriosa, Duke Ernst, and Mrs. F. Drew being most conspicuous. A good front to the group was formed with plants of *Kochia scoparia* and Maidenhair Fern.

Messrs. W. Cuthush and Son, Highgate, made a fine display of plants. The background being formed with Palms and

Bamboos, while large mounds of Carnations formed the leading feature in the flowering plants. W. Robinson, Her Grace, Monarch, The Proctor, King Arthur, and Cecilia were excellent, as were also the Malmaison varieties, Florizel, Churchwarden, Monk, and Princess of Wales. Groups of Crassulas, Ericas, Boronias, and Lantanas were also noteworthy; in fact, the whole exhibit was above the ordinary style of such groups.

Messrs. Fisher, Son, and Sibray, Sheffield, made a grand exhibit of foliage plants, Orchids, and flowers. Enormous Palms occupied the corners, and a good back was made with Bamboos and other foliage plants. The Crotons were in good foliage, especially Her Majesty. Orchids were effectively employed, Odontoglossums especially, Lælias being largely in evidence. *Cattleya gigas* was also largely shown, the whole being most effectively arranged.

Mr. Jas. Cypher, Cheltenham, arranged a group of plants and flowers in his well-known style. Needless to say this was most effective, Cocos Weddelliana forming the chief dot foliage plants, but Aralias, Crotons, Caladiums, and Asparagus were also largely employed. The flowers used were chiefly Orchids, Liliiums, and Ericas; Cattleyas, and Odontoglossums were the chief Orchids employed. It would be difficult to adequately describe the beauty of the arrangement.

A grand collection of Ferns came from Messrs. J. Hill and Son, Lower Edmonton, and with the room at their disposal a most refreshing display was made of choice specimens, while the groundwork was filled in with tinted and curious specimens. A few of the former were *Platynerium grande*, *Cibotium Schiedei*, *Davallia Mooreana*, and *D. fijiensis plumosus*.

Mr. Charles Turner, Slough, made a good display of garden Roses in pots, in which were noted Rene Andre, Paul Transon, Auguste Barbier, Alberic Barbier, Queen Alexandra, and Crimson Rambler, the groundwork being filled in with decorative Roses in pots, and good bunches of single and other varieties.

Messrs. J. Carter and Co., High Holborn, occupied a large space with a group of Gloxinias and Lily of the Valley. The former were excellent in every way, and tastefully displayed with Maidenhair Fern and Caladium argyrites. The Lilies were formed in a gigantic mound, and were greatly admired.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, contributed a circular group of regal and decorative Pelargoniums, with Begonias as an edging. The most conspicuous Pelargoniums were Dorothy, Mrs. H. Spence, May Manser, Little Richard, H. M. Stanley, and New Monarch.

Messrs. J. Waterer and Sons, Limited, Bagshot, Surrey, made a fine display of Rhododendrons and Kalinias. In the former were Kate Waterer, Marchioness of Tweedale, Lady Clementine Walsh, Sappho, Concessum, James Watson, and Lady Hillingdon.

Messrs. H. Low and Co., Bush Hill Park, arranged a miscellaneous display, in which the Palms and Crotons were conspicuous. The Hydrangeas, Fuchsias, Boronias, and Carnations were the chief features of the flowering plants, the whole making a good substantial exhibit.

Messrs. Jas. Veitch and Sons, Limited, Chelsea, arranged a grand display of foliage plants, with sufficient flowering plants to relieve the group. The centre was composed of Palms in variety, the Dracænas, notably *D. Goldiana* and *Sanderiana* being effective. The Crotons were all beautifully coloured, and the Ferns, which largely consisted of *Adiantums*, and tinted *Pterises*, were used to excellent effect. The flowering plants included *Solanum Wendlandi*, *Medinilla magnifica*, *Kalanchoe flammea* (in grand colour), clumps of *Streptocarpus* hybrids, and a few Orchids note a few of the chief features.

On this occasion Messrs. Sutton and Sons made a unique display of Gloxinias, well befitting the Coronation event. The plants themselves were excellent in quality, with flowers large, well-formed, and plenty of them. They were protected by a handsome glass stand placed under an attractive awning of octagonal shape erected specially for this exhibit, and draped round with red, white, and blue cloth in loops. The case was 7ft high and 10ft square. The varieties included were the spotted hybrid and Giant strains, together with the variety Her Majesty, Duchess of York, Duke of York, Empress, Reading Scarlet, and others.

Mr. Amos Perry, Winchmore Hill, London; N., gleaned the choicest that his hardy plant nursery contains, and furnished a special display of aquatic plants, shown in large bellglasses and minor aquaria. Their *Nymphaea* flowers in trays were quite a feature. And beyond this they staged a very large assortment of the finest hardy flowers.

From Messrs. Ware, Limited, Feltham, came Pyrethrums, Delphiniums, and Irises more particularly. Their double and single Pæonies were very beautiful, especially *P. albiflora*. The double *Geum coccineum* fl.-pl., *Ostrowskiana magnifica*, and *Lychnis viscaria splendens plena* were each superb and showy. Their Irises were represented of the best. A collection of Alpine plants was a smart feature, set as the plants were among the stones.

Our report will be continued in the next issue.

NOTES & NOTICES

National Rose Society.

We are requested to announce that the Dean of Rochester will open the N.R.S. Show on July 2 at noon.

New Spanish Gardening Journal.

We have received the first number of a newspaper entitled "El Jardin," which will be devoted to the diffusion of practical horticultural teaching and of forestry. It is published in Madrid, price 6s. per annum. A number of English houses are represented in the advertisement pages.

Dutch Horticultural and Botanical Society.

At the June meeting, the Floral Committee awarded the following first class certificates:—To Messrs. Kas en van Ommeren at Flees, for *Pteris Schoonhirsti*; to Mr. P. W. Voet, Overveen, near Haarlem, for *Eremurus robustus superba* (Himalaicus robustus) as a new plant. Certificates of merit to Mr. W. van Veen at Leiden for *Delphinium formosum coelestinum*; to Mr. C. J. Kikkert, at Haarlem, for *Odontoglossum crispum Trianae*. A botanical certificate to Mr. P. W. Voet at Overveen, near Haarlem, for *Iris urmiensis*, as a new plant. A honourable mentioning to Mr. M. Buysman at Middelburg, for a copy of a new herbarium.—P. W. Voet, Adj. Secretary, Overveen, near Haarlem, June 18, 1902.

Mr. George Cadbury and Garden Cities.

Mr. George Cadbury has generously offered to subscribe £1,000 to the Garden City Pioneer Company on condition that the whole capital of £20,000 is raised. Surely, in view of the national importance of the housing and industrial problems, this sum should not be difficult to get from the British public, in order to test the soundness of the Garden City proposals. That the scheme has some basis on practical experience and observation is shown in the confidence of men like Mr. Cadbury and Mr. Lever, who have become the principal supporters of the movement. Mr. Cadbury says of the idea to start a garden city: "The more I think of the subject, the more convinced I am that it will be the greatest boon ever conferred upon the toilers of this country if it can be carried through to any large extent." In connection with the movement a great public conference is to be held at Liverpool and Port Sunlight on July 25 and 26, when Messrs. Lever will entertain about a thousand delegates from all parts of the country. Special travelling arrangements are being made for the London delegates and members, and tickets should be applied for at once to the secretary, 77, Chancery Lane, W.C.

Messrs. Sutton and Sons' Annual Outing.

The annual outing of those employed at the establishment of Messrs. Sutton and Sons took place on Tuesday, the Isle of Wight being selected as the place to be visited. The party were due to leave Reading at 7.10 a.m., and shortly before the departure of the train Mr. Martin J. Sutton, the head of the firm, handed to each of the employés a Coronation gift of an extra week's salary. Portsmouth was reached shortly after nine o'clock, and Ryde an hour later, the Duchess of Kent being chartered for the day by the firm, for the crossing of the Solent, and also for sea trips during the day. Mr. and Mrs. Martin J. Sutton, M. and Mrs. Arthur W. Sutton, Mr. Leonard Sutton, and Mr. and Mrs. M. H. F. Sutton joined in the excursion. Before leaving the boat at Ryde, hearty cheers were given for Mr. and Mrs. Martin J. Sutton and for the other members of the firm. After landing the party at Ryde, the boat proceeded to Sandown, and any who wished were able to take the trip, the boat returning at once to Ryde. Those who preferred to remain on land found plenty to occupy their time in the many attractions which abound on the island. In the afternoon the boat started for a three or four hours' cruise, taking a large number of the party, returning to Ryde about half-past six. At seven o'clock a start was made for Portsmouth Harbour, where the party took train for Reading, reaching the town shortly after ten o'clock.

Automobile Lawn Mower.

A citizen of "slow Philadelphia" now uses an automobile lawn mower! It is P. A. B. Widener, who, no doubt, found the "red devil" of Paris so fascinating that he decided to put one to the hitherto tedious and unexciting process of shaving a lawn. A close shave at lightning speed leads us to wonder (says an exchange) how soon the tree pruners of the rich will flit about their tree-tops in Santos-Dumont flying machines!

Restoring Flowers.

Faded and scentless flowers, says a morning paper, are now being wonderfully dressed up and painted for the market by an ingenious process. After being soaked in glycerine they are placed in an ice safe into which is turned a stream of carbonic acid gas charged with the requisite perfume. This process restores both colour and scent. Another method of treating flowers which have been too long in the railway waggons is to dip them in sal ammoniac, which certainly makes the blossoms look wonderful in the shop windows.

Cities Beautiful.

Just now there appears to be what might be called an adornment wave sweeping over the country, a fact that should rejoice the heart of the seedsman, florist, and nurseryman. It bears upon its crest an effort, most laudable, to beautify the hitherto forbidding and waste places of our large cities. The object is sought to be effected through the distribution of flower seeds among the school children of the respective cities, the price of the seeds being placed within the means of all. Several associations are undertaking work of this nature, and their endeavours will surely result in a vast improvement in the appearance of the environments of many of these little ones, exerting a moral influence as well, and all contributing to the general good.—("Florists' Exchange.")

Hawaii as a Productive Country.

How great are the possibilities of Hawaii as a fruit and vegetable growing country will be understood, says an exchange, when it becomes known that four crops of Potatoes have been produced in succession on the same piece of land within twelve months. Radishes become edible in ten days after sowing. Strawberries bear fruit all the year. The berries are of the finest flavour. Cabbage grows all the year, and it apparently makes no difference whether it is planted in the spring, summer, autumn, or winter. Parsley once sown grows for ever, apparently. Lima Beans continue to grow and bear for over a year, and they have to be gathered every week after starting to bear. Cucumbers bear the entire year, and so do Tomatoes, which, with proper attention, bear for years. Raspberries bear for six months. Pine Apples come into bearing when the plants are four months old, and bear in abundance for years. Lettuce can be planted at any time, and it develops quickly. The same is true of Celery.

Fruit Growing Industry in Victoria.

The fruit-growing industry in Victoria is in a depraved condition (writes the "Sydney Mail"), and the evil from which it suffers is such as can only be removed by co-operation. Markets are glutted, and growers of several varieties of fruits have been obtaining prices barely sufficient to pay for gathering and carriage expenses, but there is a good demand in London and Melbourne. Prices in Melbourne shops are so high as to maintain fruit as a luxury for the few, while supplies sufficiently cheap for general consumption can only be obtained from hawkers' barrows in a few centres. Reasonable co-operation among growers would be able to bring producer and consumer closer together, as well as to organise better methods of exploiting the export markets. As it is, each grower or each local association acts on its own account, and all suffer. The attempt of the Government to collect representative samples of fruit for exhibition in England is a partial failure, and there is no systematic effort to solve the various problems connected with shipping the more perishable varieties to London. Jam-making and other branches of fruit-preserving are also in need of co-operative action, but while fruit growers continue to neglect this necessity of modern conditions the industry is not likely to improve. Such fruit as Raspberries will be left unharvested, while large quantities of jams and preserves will be imported from abroad. It may be that the hard experience of this season will force growers in self-defence and for self-preservation to co-operate.

An Outlet for Anglophobia.

"Majuba" was the name given to a new sulphurous-yellow coloured Rose recently exhibited in Paris. Another black-red variety (says the "Daily Mail") was ticketed "Boer Courage."

Variorum.

One shilling for each year of its age has just been paid in London for a dwarf Japanese Larch 160 years old. The tree was only 24in high. * * Doyenné du Comice Pears in splendid condition are now in Covent Garden Market. Mangoes are on there for sale.

Farms for Bulb Culture.

Experiments in the direction of bulb propagation carried out in Norfolk have been attended with great success, blooms raised from the locally propagated species beating in exhibition Dutch flowers. Farms are being gradually brought under bulb cultivation, and the supremacy of the Dutch in this direction is threatened.

Chinese Nomenclature.

The nomenclature used by Oriental gardeners is rather a mixture of the descriptive and poetical style, and many of their names are at once curious and fanciful. Hence we find such appellations as the Crystal White, the Yellow Tiger's Claw, the White Waves of Autumn, the Purple Butterfly, the Yellow Gold Thread, Purple Pheasant's Tail, and many similar. Yellow appears to be the colour most highly appreciated by the Chinese.

Commemorating the Coronation: a Practical Method.

We do not know of a more practical way of commemorating the Coronation of the King and Queen, nor one more in touch with the well-known sentiments so often expressed by their Majesties, than that adopted by the committee of the Gardeners' Royal Benevolent Institution. We understand that the committee of this old-established charity, of which their Majesties the King and Queen are patrons, have decided to commemorate the Coronation by placing on the pension list on June 26 the eleven unsuccessful candidates who had previously been subscribers to the institution. The committee have also voted the sum of £5 to each of the unsuccessful candidates—thirteen in number—who had not previously been subscribers. We feel sure that the supporters of this most admirable charity will heartily endorse the committee's action, and not allow the institution to suffer for lack of funds.

Codlin Moth: A Police Court Case.

At the City Police Court recently (reports the "Adelaide Chronicle") Thomas Playford, jun., market gardener, of Norton's Summit, was proceeded against by Inspector Quinn on a charge of having kept codlin moth. Inspector Valentine said he inspected two cases of Pears in the defendant's van at the East-End Market. The fruit showed signs of being badly infested with codlin moth, and he had it removed to the bureau for further examination. He found the living caterpillar in some of the Pears, while most of the others had been tunnelled through. At the market Playford told him he did not intend to sell the fruit, but had brought it in to "scak." The S.M. discharged the defendant, but disallowed costs on the ground that Playford had been indiscreet in taking moth-infested fruit to the market, where the chances of infection were great. The same paper says:—"In marked contrast to the vigilance exercised by the Government in South Australia towards suppressing the codlin moth is the comparative apathy of the New South Wales Government. The Sydney market is deluged with codlin-infested fruit, and no attempt is made to prevent its sale, so that the infection is carried over the whole country, and it is stated that many districts which were previously free from the pest are now finding it in their pipped fruits. No regulations are in force requiring the growers to take any precautions against its spread, such as bandaging the trees, destroying infected fruit, or spraying the trees. Several attempts have been made to introduce legislation of this character, but the opposition of the growers was so great that they had to be abandoned. Now, however, when the pest has gained a firm hold, there are many advocates of compulsory precautions. A rather selfish legislation permits New South Wales growers to export codlin-infested fruit without hindrance, but although that State is infested with the pest, great precautions are taken that none shall pass into it.

Oak Barking.

The barking of Oak trees is now in active progress in those districts where Oak plantations exist, and where advantage is being taken of the present activity in the timber trade to realise on the produce of such plantations.

Description Unique.

In commenting on the Orchids staged at the Temple Show last week, a daily morning paper announced the presence of "flowers worth the price of a motor car," a comparison which will certainly stick in the lay mind.

Seedling Geraniums at Filton.

Quite recently I had the pleasure of inspecting a very fine collection of seedling Zonals belonging to Mr. John Barry, of Filton, near Bristol. They are in every case remarkable for the fine sturdy growth of the plants, and immense size of truss and pip. These are quite large enough now, and what Mr. Barry has been working for is the production of new tints of colour. This he has succeeded especially well with in the salmon and kindred tones, while there are also many intense scarlets and beautiful pinks that are a distinct advance in their individual colours. Mr. Barry also grows a small but interesting collection of Orchids.—H. RICHARDS.

Violets in June.

This title may not strike the reader as conveying anything out of the common, for, of course, everyone has Violets in June growing in the garden, preparatory to the autumn, winter, and spring displays. Reference, however, is not made here to such a prospect, but rather to the acquisition of an actual display in May and June. Strong plants of Princess of Wales were placed in 9in pots last autumn by Mr. Elton, manager of the Oakwood Nursery, Frome, stood in one of the large Tomato houses, where they gave a splendid return of richly coloured, large, and finely scented blooms in their ordinary season. Not being required for stock purposes, they were left to occupy their pots undisturbed, and aid from the water-pot not being denied them, as so often happens with plants whose future has no value, their growth progressed, and flowers in due time developed which have not only been much admired, but have realised more than ordinary value. A parallel case is furnished in pot-grown Strawberries, for when forced early, and carefully treated afterwards, they will give a useful crop of berries out of the ordinary fruiting season. These Violets have acted in exactly a similar manner, and Mr. Elton's example will find many imitators no doubt in the near future. In the market growers' type of glass house, which are light, well ventilated, and suitably heated, Violets appear to find congenial quarters. The plants under notice were in the late winter enviable in their robust growth, massive blooms, depth of colour, and freedom of bud.—S.

Meteorological Observations at Chiswick.

Taken in the Royal Horticultural Society's Gardens at Chiswick, height above sea level 24 feet

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1902. June.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
Sunday ...15	W.S.W.	deg. 51.9	deg. 48.1	deg. 58.2	deg. 47.0	Ins. 0.07	deg. 54.8	deg. 54.6	deg. 53.2	deg. 46.3
Monday ...16	S.W.	53.1	51.0	56.8	48.5	0.05	54.5	54.6	53.2	45.0
Tuesday ...17	N.N.E.	54.4	49.8	62.7	44.3	—	55.0	54.8	53.2	35.2
Wed'sday 18	E.S.E.	54.9	51.7	64.9	46.5	—	56.4	55.0	53.2	40.9
Thursday 19	S.E.	64.2	56.5	70.4	49.3	0.32	57.1	55.3	53.2	40.4
Friday ...20	S.W.	54.9	53.7	63.1	54.9	0.04	59.2	56.0	53.2	53.7
Saturday 21	W.S.W.	59.2	54.8	67.2	51.5	0.03	58.6	56.4	53.3	44.8
MEANS ...		56.1	52.2	63.3	48.9	Total. 0.51	56.5	55.2	53.2	43.8

The weather for the most part has been dull, with intervals of bright sunshine and frequent showers. The maximum mean temperature for the week, as compared with the average for the same period for the three previous years, is 6deg. below the average.



Peas, Ne Plus Ultra and Autocrat.

We have read with much pleasure that excellent and interesting article "A Chat About Vegetables," by "B." After nearly fifty years' experience in gardening, we can say "Amen" to almost every sentiment expressed. One notable exception, however, is that in reference to Ne Plus Ultra Pea. "B.'s" experience is another proof how Peas, as well as many other things, vary in different soils and situations. We have tried many varieties against Ne Plus Ultra. During the past two seasons we have grown Autocrat, and were much pleased with its strong, sturdy, vigorous growth, and expected great things from it. However, we were doomed to disappointment. The crop was only about half of Ne Plus Ultra; the pods were not nearly so well filled; and, like all other varieties that we have tried, infinitely inferior in flavour to our old favourite. We grow all our Peas in trenches, about 15in wide, with plenty of short dung under them, and sow the seeds thinly nearly the whole width of the trench, so that the plants have ample room in their earliest stage of growth. Under this treatment Ne Plus Ultra generally grows between 8ft and 9ft high, and in some seasons even higher. Although we are in a late, cold, low-lying situation in North Northumberland, our own saved seed of Ne Plus Ultra is much finer than any we have ever bought.—N. N.

Plants which Survive a Scottish Winter.

One hears much too often the statement made that this or that exotic plant is incapable of surviving the rigours of a winter in the higher latitudes of the United Kingdom. Much of this is oftener than otherwise based on hearsay, which, like a tradition, is prone to be carried down from one non-enterprising generation to another without the remotest trace of authority for the assertion. In a small way, we have ourselves proved that more than one greenhouse subject is hardy enough to overcome the lowest frosts one generally meets with in Scotland, and that, too, under very distinct climatal conditions, so that we have long since learned to venture an opinion on the matter, but with reluctancy and bated breath. That some parts of Scotland can produce climatal conditions sufficiently mild to grow with success most plants that any other part in the southern latitudes of the kingdom is capable of doing, is evident from the interesting experiences of the noble patron of horticulture, C. H. Mackenzie, Esq., of Inverewe House, West Ross-shire. This gentleman has had wide and long-continued experience in the work of elimating plants, and from some notes recently published from his pen it is amazing to find so much to be possible in the North of Scotland, more especially when it is taken into account that the gardens and grounds are within hail of the storms and blasts of the fierce Atlantic Ocean. Arundinarias, Phormiums, Cordylines, Palms, Dieksonias, Tree Ferns, Camellias, and Aralias evidently grow there very much better than most of us appear to grow them under glass. We hear their proud possessor say, on one occasion, that were it not for the inevitable showers of snow or hail one would almost forget that one was not under a canopy of glass. Eucalypti grow well there. The species globulus appears to be the only one which gets brown with spring frosts and the effects of sea storms. The species Gunni, coccifera, cordata, pauciflora, urnigera; and Whittinghami apparently never suffer in the least from the effects of winter. Nuttallia cerasiformis, Drimys Winteri, Indigoferas, Crinodendron Hookerianum, Abelia rupestris, Eucryphia pinnatifolia, Calochortus in varieties, Enkianthus, Gaylussacias, Cyelobothras, Inearvilleas, Romneya Coulteri, Abutilon vitifera, Zenobia pulverulenta, Citrus of sorts, Pittosporums, Hydrangeas, including H. paniculata, Acer japonica of sorts, and many other equally notable subjects find the above situation a suitable home for their vigorous and luxuriant growth. It is perhaps noteworthy to mention that Arundinaria Simonsi pushes up shoots of 10ft in height in a season. The lessons to be deduced from Mr. Mackenzie's research in this very interesting department of horticulture are eminently instructive, and ought to induce many other proprietors and gardeners to give a due share of their time and attention to a subject so full of instruction, usefulness, and interest.—D. C.

[We are greatly indebted to our correspondent for his

interesting letter, and hope that it may be the means of causing Scottish garden owners and gardeners to consider more the selection of shrubs that they can safely choose and plant. Scottish caution is a stumblingblock sometimes, and from observations at the Botanic Garden, Edinburgh, and at Dalkeith Palace, Tynninghame Gardens, and elsewhere, we are confident that many shrubs at present rare and considered choice are, with due care, perfectly suitable for hundreds of the gardens of Scotland.—Ed.]

Gardeners' Education.

The last sentence by Thomas Arnold, page 533, contains a most amazing doctrine. He says: "But first of all he ("Another Unfortunate") must become a satisfied man." If logically followed out this leads one to some curious and unpleasant conclusions. To be satisfied implies the lack of, or the destruction of ambition, and ambition, I take it, is the principal cause of the world's progression. It is being dissatisfied with his present circumstances that makes a man aim at something higher, whether the man be statesman or gardener. A butcher's son was dissatisfied with his earlier circumstances, and lived to win—what? The Cardinal's hat and Hampton Court. To be sure, Shakespeare makes him say to Cromwell:

Cromwell, I charge thee fling away ambition.
By that sin fell the angels. How can man, then,
The image of his Maker, hope to win by't?

Thomas Arnold must have been thinking of these lines when he wrote his last sentence, forgetting that it was only when the Cardinal had fallen, through the envy of the King, and when his heart was bitter at his fall, that he said this. No, sir; let all men be satisfied, and stagnation takes the place of progress. It is only those who have attained greatness who can afford to be satisfied. If a man in a humble position is satisfied it implies lack of ambition or ignorance. All reforms are the children of dissatisfaction. It gave birth to "Uncle Tom's Cabin" and the "Cry of the Children," and be sure the status of gardeners will not improve if no one voices our grievances. But shall we ever reach that Utopian state when each gardener will be rewarded according to his merits? I think not. For it is too true, in spite of what moralists may say, that the race is too often to the lucky and not to the strong. Mechanics have an advantage in that the better workman can always command the better wage, which, as a rule, is not the case with a gardener, who, by the death or altered position of his employer, finds himself shipwrecked and cast upon the sands. It is then that he finds that his previous record is not alone sufficient to obtain him another position equal to his capabilities. He must rely largely upon what influence his late employers may have amongst their friends, or some other fortunate chance. One may get that chance, but what of the nine who do not? Getting a place is much like the drawing of a lottery ticket—pure chance. It is very true, as "Anti-Luck" (same page) points out, that making the most of "one's opportunities and talents" is the only way to achieve success—you see, he admits "opportunities," which, in this connection, is only another name for "luck," and he must admit that all do not enjoy equal opportunities, even if the education is the same. I have observed that those whose lot is cast in pleasant places find it difficult to understand that they arrived there by means other than their own ability. Another Shakespearean quotation is appropriate: "Some are born great, some achieve greatness, and some have greatness thrust upon them." Gardeners of to-day may be found in each of these divisions. By all means circulate such advice as that of Mr. Divers and also, from time to time, by "An Old Boy," for I fear that the majority of young gardeners require some stimulating; and the knowledge gained will never be really wasted, for a man will always find pleasure in his knowledge even if he finds no opportunity of making his knowledge further his ambition; and a young man can always be relied upon to judge if his knowledge shall be used to make him a successful gardener, or in other and more lucrative employment. "Anti-Luck" must be of an extra optimistic temperament if he believes, what he so gaily asserts, that the places where the gardener's duties are combined with several other professions foreign to his own, are "rare berths." Would that the "plums" of the profession were no harder to obtain than one of these, for then there would be no excuse for such articles as that of "D. W. G." Meanwhile, all a gardener can do is to strive his utmost to obtain the maximum results from his garden that his circumstances will allow, so that his fame as a gardener may be established, and that others, possible employers, may see his good works; then if the chance of betterment arrives it finds a man of unlimited capabilities ready to seize that chance, and if the finger of fortune ever points to him, well, he has the consolation, small though it is, of duty well done.—J. T. B.



(Concluded from page 531.)

Liverpool Show.

On November 13 I visited the Liverpool Chrysanthemum Show, which was held at St. George's Hall. It is considered to be one of the finest halls in England, consequently the exhibits were favoured with elaborate decorations, and, although the show was not near so large as the preceding shows, yet it contained very fine exhibits, apart from Chrysanthemums. But as it is the latter I am particularly dealing with this evening, I will, for the present, pass over the other exhibits.

Some of the trained specimens were very fine, which included Japanese, Incurved, Anemones, and Pompons. The staked specimens in Japanese were also fine, and contained good plants of the following: Nellie Pockett, Souvenir de Petite Amie, Lady Hanham, &c. Very effective were the groups of Chrysanthemum and foliage plants. The best consisted largely of fine double and single Chrysanthemums, whilst the foreground was composed of *Panicum*, *Eulalia*, and *Adiantum*; the centre contained a fine *Phoenix rupicola*, and about midway there were five very fine *Crotons*. The Twenty Guinea Cup brought out some good exhibits in cut blooms, twenty-four Japanese and twenty-four Incurved being the number required, the first prize going to Mr. Heaton for a well-grown lot. In the second, third, and fourth prize stands there was also very fine blooms, and great interest was taken in these exhibits by the visitors.

At the luncheon several of the present committee (who were also members when the society was formed) spoke in the highest terms of one of their old and respected committeemen, in the person of Mr. Edwards, The Gardens, Ballarat East, and I was asked to convey their best wishes to him on my return.

Edinburgh Show.

These notes would not be complete without referring to Edinburgh, as I look upon this as being second only to the Aquarium Show. The opening day was November 14, and the large building (Waverley Market) appears to be well adapted for holding big shows, and, what is still more gratifying, it was well patronised.

The vase classes, which were well filled, appeared to be the centre of attraction. But, as upwards of £400 is given in prizes at this show, it will be easily understood that a great deal of friendly rivalry must exist, consequently there is spirited competition throughout. The principal prize was £20 and a Gold Medal for twenty varieties of Japanese, three blooms of each. This was won by Mr. Lunt, with extraordinarily fine blooms (only equalled by Mr. Vallis at the Aquarium Show). The second went to Mr. Besant, who staged some fine blooms, not much inferior to the above.

Another important competition was for the City of Edinburgh prize, value £20, fifteen varieties, three blooms of each, and considering that nine competed it was a fine display. Mr. D. Nicol was awarded first, with a grand lot of blooms; Mr. D. Kidd second, with good examples, many of them very fine. The Scottish Cup and £10, for twelve varieties, three of each, brought out some good exhibits. Eight competed, and here again Mr. Lunt scored first with extra fine blooms, and Mr. Besant came in well for second place. The specimen plants were the largest I had seen for 12in pots, many of them 5ft or more through. They were small owing to the plants being taxed to do what was impossible, and the foliage also suffered to some extent. The groups were rather below the average. Another matter, which is perhaps of more interest to myself, was the medals offered for novelties, Mrs. T. W. Pockett and Henry Barnes taking the two.

I had intended to explain more re Chrysanthemums I saw in the old country, but, having already written rather a long paper, I shall conclude my remarks by just referring to the position Australia occupies in the opinion of the English growers, and I must not omit the highly-respected Chrysanthemum expert, E. Molyneux.

I spent a pleasant time at Edinburgh with Chrysanthemum specialists, and I must specially mention the name of Mr. E. Molyneux. I found him a gentleman entitled to the good opinion formed of him in England. His opinions are evidently based on conscientious motives, and I feel confident that his aim is at all times to give an unbiassed decision. He is an able writer on Chrysanthemums, and he has a reputation of being more accurate in his writings of new and popular varieties than any other specialist. Referring again to Australian-raised varieties, it is highly satisfactory to know that they have given

the greatest satisfaction. We have hardly started, yet we now take an equal place with France, and, judging from what I saw over there, we must continue to improve. The favourite varieties some twelve years ago were composed chiefly from those raised in Japan. Then France took the lead. A little later American varieties were being brought rather prominently before the growers: England has always contributed a fair proportion, but, lastly, Australia is fighting for supremacy, and the last audit for fifty best kinds that are already in commerce gives England 25, France 11, Australia 11, America 1, Japan 1, Belgium 1; total, 50 varieties.—T. POCKETT.

Book Notices.

The Natural History of Plants.¹

Many students, both young and old, will welcome this reprint of the greatly renowned *Natural History of Plants*, which was first written by the late Anton Kerner, Professor of Botany in the University of Vienna. The price now brings this pleasant instructor within the reach of all, and if our young gardener friends especially will accept our advice and make a start by obtaining parts I. and II., already published, they will be led on to secure the others, and by a little attention to the chapters as they read them, they will find themselves much better informed men and growers of plants than they were before. This work is not a dry-as-dust botany book; it is a popularly written history of the Vegetable Kingdom, and it is on that account that so many have read and studied the publication. There will be sixteen monthly parts at 1s. 6d. each, net.

Hand List of Herbaceous Plants.²

A very bulky *Hand List*, in fact, 2in is the compressed measurement of the total pages, the other dimensions being similar to the familiar "*Kew Bulletins*." The object of the list in the first place is to show what species are actually grown at Kew, and, secondly, to reduce, if possible, the nomenclature in use in gardens to something like a standard. We therefore adhere to the *Hand List* in the naming of plants sent in to this office. The number of names here printed may be judged when we state that "the total number of herbaceous flowering plants in cultivation at Kew is approximately 8,000, including 1,000 well-marked varieties." Synonyms and discountenanced names of species or genera are tabulated, and referred to under their recognised appellations. Shrubby Alpines are also included; the natural order of each genus is stated.

Successful Advertising.³

"It is to be admitted that up to quite a recent period—say the last decade—the average advertising agent only existed to place orders, and to take his commission thereon. But with progressive agents, it was soon plainly perceptible that to get a customer on the best terms with himself and with his advertising, and therefore with his agent, it was an imperative matter of self-interest to institute various departments, the object of which would be to facilitate the client's business, to improve his advertising generally, and thereby procure a larger percentage of sale-yield to advertising expense." These lines are found in this book of "*Successful Advertising*," and we chose them because they summarise the points that explain the existence of advertising agencies, and show that the advertisers' interests must necessarily be theirs also, especially so in these days of keen competition between "agencies." This annual publication contains a varied amount of information and advice likely to be desired by would-be advertisers, and the perusal of its pages can be recommended as profitable to all business people.

Practical Advertising.⁴

A bulky volume, including a representative Press directory and advertisers' guide. Information as to the day of publication of journals and magazines, their price, circulation, advertisement rates, and address are furnished. As heretofore, the work is prefaced by a number of articles on subjects of interest to advertisers. The newspaper lists and indices have been subjected to complete revision, and no trouble has evidently been spared in the endeavour to make the book indispensable to those for whom it is designed. From this guide we learn of the existence of the "*Isle of Wight Gardener and Home Farmer*," which was established in 1900.

¹ "*The Natural History of Plants*," Kerner and Oliver. Blackie & Son, Ltd., Glasgow and Dublin. 1/6 each part.

² "*Hand List of Herbaceous Plants Cultivated in the Royal Gardens, Kew*" (second edition). Sold at the Royal Gardens, Kew. Price 1/9.

³ "*Successful Advertising*, its Secrets Explained by Smith's Advertising Agency." Price 2s, twenty-first edition. Smith's Printing Agency, 28-32, Hulton Street, E.C.

⁴ "*Practical Advertising*," Mather & Gower, Ltd., London.

Societies.

Royal Oxfordshire, June 23rd.

This society, which was established in 1830, held its annual Commemoration Flower Show, by the permission of the Warden of Wadham College, in the grounds of the foundation, and though not one of the most ancient of the University Colleges, is yet of old-time character, and it can boast some very fine trees, including a massive specimen of the Tulip Tree, noble Walnuts, splendid cut-leaved Oaks, giant Evergreen Oaks, the Cork Tree, deciduous Cypress, and a good selection of flowering trees and shrubs, including various forms of *Cratægus*, &c. The weather was delightfully fine, and the company could sit in the shade of umbrageous trees and listen to delightful music. The secretary deplored a falling off in the entries, which were fewer than usual, doubtless owing to the incidence of the season, which affected the cut Roses in particular. Then there has been a certain falling off in the number of exhibitors, an experience which is the unfortunate legacy of many secretaries of late.

Miscellaneous exhibits not only helped to make up for the deficiency of entries in assisting to fill the tents, but they also added features of great interest. It was a matter for regret that the state of the finances of the society did not admit of other than awards of merit being made to them. These included a large and extremely interesting collection of Cacti from Messrs. Francis Taylor and Sons, Kingham Nurseries, Chipping Norton Junction: a collection of foliaged plants, including Crotons, *Dracænas*, Palms, *Caladiums*, &c., from John Parsons, Esq., Tubney House, Abingdon (Mr. J. Harris, gardener); a collection of flowering plants, forming an imposing central group, from G. H. Morrell, Esq., M.P., Headington House (Mr. T. Singleton, gardener), a collection of handsome foliage and flowering plants from G. Randell Higgins, Esq., Burcote (Mr. A. J. Morris, gardener); a collection of cut flowers of a very effective character from Mr. J. Johnson, Garsington Nurseries; a collection of very fine *Gloxinia* in pots from Messrs. E. Webb and Sons, Wordsley, Stourbridge, which were awarded the only gold medal at the show. Also a collection of cut *Pyrethrums* and other hardy flowers from Messrs. P. J. Perry and Co., nurserymen, Banbury.

There were two groups of foliage plants arranged on a space of 120ft superficial, a square arrangement being followed by both competitors. The first prize went to Mr. J. Johnson, Garsington Nurseries, who made use of *Lilium Harrisii*, *Pelargoniums*, *Carnations*, *Hydrangea paniculata*, and foliage plants, securing an effective display. Mr. W. T. Mattock, nurseryman, Headington, was second, combining in a tasteful manner foliage and flowering plants. The best specimen greenhouse plant was *Anthurium Scherzerianum* from Mr. J. Mattock, nurseryman, Oxford; Mr. J. Jacob, florist, Witney, came second with *Bougainvillea Sanderiana*, which had been grown and bloomed in an ordinary greenhouse. *Kentias* were shown as specimen ornamental foliage plants. Mr. J. Mattock took the first prize with a noble specimen, Mr. Geo. Jacob was second, and Mr. J. Johnson third.

The best six *Gloxinias* came from G. Randell Higgins, Esq. (Mr. A. J. Morris, gardener); they were finely grown and bloomed, and of excellent quality. Mr. W. T. Mattock was the only exhibitor of six *Fuchsias*; he had well grown and bloomed examples of charming splendour—Mrs. Lye, General Roberts, Lucy Fiennes, and Mrs. Marshall.

Mr. Geo. Jacob came first with six exotic Ferns, chief among them well developed specimens of *Davallia Mooreana*, *Adiantum Williamsii*, *A. grandiceps*, *A. gracillimum*, &c. W. M. Foster-Melliar, Esq., North Aston Hall (Mr. Jas. Swain, gardener), was a good second; he had in fine character *Adiantum Farleyense*, *A. formosum*, *A. concinnum*, &c. Two excellent collections of British Ferns were staged. Mr. W. Mount, South Parks Road, Oxford, was first with finely developed plants, and Mr. W. F. Cross, Chilswell, Oxford, was second. There were two groups of *Begonias* arranged on a table. Mr. W. T. Mattock was first with plants having a good head of bloom, and Mr. J. Johnson was second. A half-dozen excellently grown and bloomed specimens of single Zonal *Pelargoniums* came from Mr. J. Johnson, and took the first prize. He was also first prizeman with four specimens of double Zonals, and also with a charming group of *Carnations*.

Roses, for the reason stated, were few. The only exhibitor of twenty-four blooms was Mr. J. Mattock, who staged very good examples of *The Bride*, *Medea*, *Cleopatra*, *Maman Cochet*, *Souvenir d'Elise*, *Alba rosea*, *Catherine Mermet*, *Souvenir de S. A. Prince*, *Souvenir d'un Ami*, *Maréchal Niel*, *Ards Rover*, bright in colour; *Muriel Grahame*, *Golden Gate*, *Madame Cusin*, *Madame Hoste*, *Amazona*, *W. F. Bennett*, *Gustave Regis*, *Madame de Watteville*, &c. With eighteen blooms Mr. R. E. West, Reigate, was first with *La France*, *Gustave Piganeau*,

Marquise de Castellane, *Marquise de Litta*, *Marie Baumann*, *Catherine Mermet*, *Caroline Testout*, *Bridesmaid*, *François Kruger*, *Souvenir de S. A. Prince*, &c. In the amateurs' division there was a class for nine Roses; Mr. Alfred Evans, Marston, took the first prize with creditable blooms.

Pyrethrums shown as large and imposing bunches made a good feature. Mr. J. Johnson had fine varieties, but they were unnamed. He was also placed first with twelve very fine bunches of hardy perennials, and Mr. W. F. Cross was a close second. Neither of the collections were named, which we thought to be a great pity, the subjects being so good. Chief among them were *Pyrethrums*, double and single *Irises*, *Lupinus polyphyllus albus*, *Heuchera sanguinea*, *Campanulas*, *Hemerocallis*, *Pæonies*, &c. With six bunches of *Irises*, Mr. W. F. Cross was first and Mr. J. Johnson second, both having fine varieties of the Germanica section, but all unnamed. In the amateurs' division some very good cut flowers were staged; Mr. H. Keen, Cowley, was first with six admirable bunches of *Pyrethrums*, and Mr. Geo. Kirtland, Bletchington, was second. Mr. H. Keen was first with six bunches of hardy perennials, and Mr. T. Anstiss, Brill, with six bunches of Zonal *Pelargoniums*.

Floral decorations consisted of a dinner table of the dimensions 6ft by 4ft. Mr. W. T. Mattock was first with a simple but tasteful arrangement, *Gladiolus Colvilli albus* and *Heuchera* with foliage; the corner pieces were of the same character, with just a touch of small yellow *Oncidium*. Mr. J. Mattock was second and Mr. R. E. West third, both employing Iceland Poppies. Mr. W. T. Mattock was also first with an elegant shower bouquet. Ladies' sprays and hand bouquets were shown by amateurs.

Fruit was only sparingly shown. There was but one exhibitor of three bunches of white Grapes, Mr. W. M. Foster-Melliar, who had good Buckland Sweetwater, and he was first with three excellent and finely finished bunches of Black Hamburgh Grapes; G. H. Morrell, Esq., Headington (Mr. Hill, gardener), was second, also with good bunches; and Aubrey Harcourt, Esq., Nuneham Park (Mr. C. J. Munday, gardener), was third. Mr. W. M. Foster-Melliar exhibited three bunches of Gros Maroc Grapes as an extra, and they were highly commended. Mr. G. H. Morrell took the first prize with a dish of Peaches, unnamed; P. Southby, Esq., Bampton (Mr. G. Neal, gardener), was second with *Stirling Castle*; and A. Henderson, Esq., M.P., Buscot Park (Mr. W. L. Bastin, gardener), third. Mr. Bastin came in first with Nectarines, having good Lord Napier; Mr. P. Southby was second with Early Rivers. There were several Melons, Mr. P. Southby taking the first prize with *The Duchess*, of the type of *Hero* of Lockinge. Very fine Tomatoes were exhibited, Mr. P. Southby was first with *Perfection*, and Mr. Bastin second with *Polegate*, Mr. C. D. Bell, Witney, coming third with *Perfection*.

In the Society's class for a collection of eight dishes of vegetables, Mr. Munday was first with *Magnum Bonum Cauliflower*, *Early Snowball Turnip*, *Early Gem Carrot*, *William I. Peas*, *Supreme Potato*, *Asparagus*, &c.; a very good collection. Mrs. Bradshaw, Steeple Aston, was second, and Mr. C. D. Butt third. Messrs. Sutton and Sons, Reading, offered special prizes for six dishes, and Mrs. Bradshaw was first with *Magnum Bonum Cauliflower*, *Early Giant Peas*, *Satisfaction Potato*, *Perfection Tomato*, *Early Gem Carrot*, and *Matchless Cucumber*; Mr. P. Southby was second, also with good produce, and a third prize was awarded. There was but one competitor in the class in which Messrs. E. Webb and Sons offered special prizes for six dishes; P. Southby, Esq., was first with good produce—*Tom Thumb Cauliflower*, *Stourbridge Marrowfat Pea*, *Commander Cucumber*, *Eclipse Potato*, *Standard Carrot*, and *Tomatoes*. Vegetables were also shown in a few classes by amateurs, and on the whole creditable produce was staged.

Isle of Wight Rose.

As might have been expected in such an unfavourable season, the show Roses at the above society's exhibition, held at Ryde in the Public Esplanade Gardens on June 19, was very much below the average, many noted growers being unable to put in an appearance at all, the competition consequently being very limited. Miscellaneous groups took the place of the Roses, and an attractive little exhibition was the result.

In the open class for twenty-four varieties there was only one exhibitor, Mr. G. Prince, Oxford, who was awarded first with the following:—*Souvenir d'un Ami*, *Duke of Teck*, *Maréchal Niel*, *Rainbow*, *Gloire de Dijon*, *Reine Marie Henriette*, *Marquis of Salisbury*, *Maman Cochet*, *Souvenir de S. A. Prince*, *Général Jacqueminot*, *Madame A. Chatenay*, *Duke of Edinburgh*, *Niphetos*, *Marquise de Castellane*, *La France*, *Exposition de Brie*, *Marie Van Houtte*, *Madame Lambard*, *John Hopper*, *Souvenir de Malmaison*, *Duc de Rohan*, *Anna Ollivier*, *Crown Prince*, and *W. A. Richardson*. In the class for twelve of any one variety, Mr. Prince was the only competitor, and took the first

with a fairly good stand of Maréchal Niel. The same exhibitor was also by himself for twelve Tea or Noisettes. In the amateur class, open, twenty-four, Mr. J. O. Brook, Ryde, was awarded first; and for an epergne Mrs. G. Kent was first and the Rev. J. Shearme second.

The chief prize in the local classes was the Isle of Wight Challenge Cup for twenty-four distinct and the King's Gold Medal for twelve distinct. For the Challenge Cup the winner last year, Mr. G. Kent, gardener to Mrs. Croft Murray, had a walk over, and could now claim it, but in consideration of there being no competition, she has kindly offered it again another year. Mrs. Croft Murray also won the King's gold medal, the Rev. G. E. Jeans, Shorwell, being second, and Countess Cowley, Wooten, third. Miss Ward, Freshwater, and Mrs. Disney Leith, Northcourt, were also first prize winners in other classes. The silver medal for the Premier Tea was won by the Rev. G. E. Jeans with Souvenir de S. A. Prince, and the bronze medal for Premier H.P. or H.T. was awarded to Mr. G. Kent with a bloom of Antoine Rivoire H.T.

In the miscellaneous classes Messrs. John Peed and Son, Norwood, exhibited a splendid collection of Caladium plants—about forty varieties—interspersed with Palms and other foliage plants, which made a fine feature. The same firm also exhibited some boxes of fine Gloxinia and Begonia blooms. Mr. Goble, Ryde, also contributed a centre table of Palms, Orchids, Gloxinias, Carnations, &c., of which Malmaison H. J. Jones was very fine, old clove colour. W. H. Rogers and Son, Southampton, also staged an interesting collection of cut hardy ornamental foliage and flowering plants, Mr. B. O. Cochrane an interesting vase of Irises, and Mrs. Croft Murray a collection of herbaceous plants.—C. ORCHARD.

Metropolitan Public Gardens Association.

OPEN SPACES.—At the monthly meeting of the Metropolitan Public Gardens Association, 83, Lancaster Gate, W., the Earl of Meath, chairman, presiding, it was stated that a legacy of £10 had been notified to the Association under the will of the late Mrs. Theodore Monro. Considerable discussion arose in reference to faculties recently granted by the Consistory Court for the erection of buildings on churchyards, some of which had even been laid out as public gardens, and the consequent danger of being converted into building sites, in which all spaces of this character were placed. It was held that an authoritative decision of a superior Court ought to be obtained, and that if the Disused Burial Grounds Act, specially intended by Parliament to prevent these grounds, which were of the utmost value as open spaces, from being built upon, were found to be defective, it ought to be strengthened without delay. A sub-committee was appointed to deal with the matter, and it was mentioned that the case of Holy Trinity, Stepney, Churchyard Garden was still before the Consistory Court. It was reported that the drinking fountain erected by the Association at the cost of Mr. Passmore Edwards in Leyton Square Garden had been opened to the public on the 27th ult., and handed over to the Camberwell Borough Council for maintenance, Sir William Vincent, Bart., vice-chairman, representing the Association on the occasion. Proposals were considered in reference to the acquisition of Broomfield Park, Palmer's Green, an estate at Upper Clapton, and St. Peter's Square, Hammersmith, and the laying out of a recreation ground in Wandsworth, and of churchyards in Poplar, Whitechapel, and Stratford. Correspondence was read with regard to tree planting in certain thoroughfares in Shoreditch, and the safeguarding of trees in connection with the erection of stands along the Coronation routes. Applications for seats were granted for South Grove, Camberwell, Pearson's Ground, Bermondsey, and St. Luke's Churchyard, E.C.

Royal Meteorological.

The second afternoon meeting of the present session was held on Wednesday, the 18th inst., at the society's rooms, 70, Victoria Street, Westminster, Mr. R. Inwards, F.R.A.S., vice-president, in the chair. Mr. F. C. Bayard read a paper on "English Climatology, 1891—1900," which is a discussion of the climatological data printed in the "Meteorological Record." In 1874 the Royal Meteorological Society commenced the organisation of a series of stations at which the observations are made twice a day on a uniform plan, so that the results may be strictly comparable with each other. In addition to these the society in 1880 organised another class of stations, termed climatological, at which the observations are made once a day, viz., at 9 a.m. Mr. Bayard on a former occasion worked up the results from these climatological stations for the ten years 1881—90, and in the present paper he gives the averages from sixty-nine stations for the ten years 1891—1900. The elements dealt with are temperature, relative humidity, amount of cloud rainfall and rainy days, and the results are a valuable contribution to the climatology of the British Isles. A paper by Mr. W. L. Dallas on "Earth Temperature Observations recorded in Upper India"

was also read, in which the author discussed the observations made on the temperature of the soil at three stations, viz., Lahore, the capital of the Punjab, Dehra Dun, in the north-west of the North-Western Provinces, and Jaipur, the capital of the native state of that name. The observations, which were made at depths varying from 4in to 45½ft below the surface, extended from 1884 to 1899.

Shirley Gardeners' Association.

The usual monthly meeting was held at the Parish Room on Monday evening. Mr. B. Ladhams, F.R.H.S., presided, and introduced the lecturer, Mr. W. G. Bushell, of the Gardens, Rownhams House, Shirley, who gave a very interesting lecture upon "Chemical Manures as an Aid to Growing Fruit, Flowers, and Vegetables," to a good attendance of members. Treating



The Wistaria at Holland House.

of the three main constituents of chemical manures, viz., phosphates, potash, and nitrates, he dealt with the application and the proportion of each required for the growth of certain products. He pointed out that they should be careful not to mix certain manures, which acted upon each other, as, for instance, nitrate of soda with superphosphates, or sulphate of ammonia with basic slag. Mr. F. Cozens gained the first prize and the society's certificate of merit, for twelve cut Roses, and the hon. sec., Mr. J. Miles, took second. Mr. Cozens also had a second prize in the class for six Roses. Mr. Bushell was vhc for Cabbage, and Mr. B. Ladhams for a very fine stand of hardy cut flowers. The next lecture will be "Stone Fruits," by Mr. J. W. Mitchell, the Gardens, Chilworth Manor.—J. M.

R.H.S., Scientific Committee.

Cytisus Adami.—Dr. Masters exhibited fine specimens of this curious hybrid, showing both parental forms, and various intermediates proceeding from the same branch.

Roses Dying.—Specimens were also exhibited wherein the upper shoots and the stock were dead or dying. The appearances were considered to be due to an over-dose of strong manure.

Supposed Wild Form of Lilium candidum.—Dr. Masters showed from Mr. Sprenger, of Naples, specimens from the moun-

tains of Calabria. The segments were smaller, narrower, and less recurved than in the ordinary cultivated form.

Fruit of the Tea Plant.—Dr. Masters exhibited from Mr. Guttridge, the Botanic Garden, Liverpool, a specimen of *Thea Bohea* bearing a ripe capsule. Similar but larger fruits are not uncommon in *Camellias*, but are not so often met with. Mr. Odell remarked that he had frequently seen specimens.

Diseased Vines.—Mr. Close sent specimens in which the roots were dying or dead. On examination, it was considered that the mischief was due to an over-rich soil, or to having been kept too long in a pot.

Newport (Mon.) Gardeners' Association.

The members of the above association held their usual meeting on Wednesday, June 11, when Mr. J. H. Reece read a paper on "The Life and Growth of a Plant." After some remarks on the study of botany, Mr. Reece described in a very interesting, concise, and lucid manner the growth of a plant, commencing with a description of the various parts of a seed, the manner of its germination, the roots and their uses, &c. The paper was illustrated by diagrams, and was thoroughly enjoyed by the members. A good discussion followed, which was taken part in by the chairman, vice-chairman, Messrs. Kenward, Duff, Powell, Jones, and others, and many questions were asked. A hearty vote of thanks was unanimously accorded Mr. Reece for his very able paper, also to Mr. Jones for two well flowered specimens of fibrous-rooted *Begonias*.—J. PEGLER, Hon. Secretary.

Bristol Gardeners' Association.

The members of this association met on Thursday evening last at St. John's Rooms, Redland, Mr. Binfield occupying the chair, and there was a good attendance. The lecture for the evening was provided by Mr. Day, Sneyd Park, his subject being "Summer Bedding," which at this season of the year claims most of the gardener's attention.

At the outset Mr. Day emphasised the fact that every gardener should take into consideration the soil, aspect, and conditions, which he said were essential factors to obtain a good display. The various modes for the adornment of our gardens during the summer months the lecturer carefully and practically described, including carpet, tropical, and the ordinary mixed bedding, advising double bedding, so as to have a continual display, which was one of the chief points in the pleasure garden. Herbaceous plants were always an acquisition in the garden, and should be planted largely, and if judiciously mixed with other plants, always made a pleasing effect. He gave a good selection of suitable bedding plants, including the *Begonia*, *Heliotrope*, *Pentstemon*, *Violas*, and many others. The *Begonia* especially being one of the best, providing the soil and aspect was suitable. His able lecture was much appreciated, and brought forward a good discussion, at the close of which Mr. Day was unanimously accorded the hearty thanks of the meeting for his effort. A prize for two *Gloxinias* kindly given by Mr. W. A. Garaway, was awarded to Mr. A. Baker (gardener, Mr. Orchard). Certificates of merit went to Mr. N. C. Dobson (gardener, Mr. Thoday), for a *Streptocarpus*; Colonel Goss (gardener, Mr. Shaddick) obtaining one for *Lælia purpurata*, Mr. Garnish also gaining one for a dish of *Tomatoes*. A special certificate of merit was recommended for Lady Cave (gardener, Mr. Poole) for a collection of plants and fruit, including a fine *Pitcher* plant and some beautiful *Carmine Pillar Roses*, these sort of exhibits adding much to the evening's enjoyment.—H. K.

Sundials.

One of the best known and most often consulted of dials in London is that to be found in the Temple, where it adorns the warm red brick wall of one of the old houses facing the Hall of the Middle Temple, wherein Queen Elizabeth was often present at the plays of William Shakespeare. The garden wherein this dial is to be found is also sacred as being the trysting place of poor Tom Pinch and Ruth, and though the sun-dial bears now a bright new face, with the date of its last emblazonment, 1897, boldly gilt thereon, it is a very old friend. It bears the initials J. P. M. and T., which last stands for Treasurer, and the motto, "Discite Justitiam Moniti" in old lettering. In the almost adjoining gardens of the Inner Temple is a somewhat pleasing dial, with a gracefully pierced gnomon, standing on a fluted and floral base, which adds a decided element of beauty and utility to the expanse of green lawn facing the River Thames. A third dial is in Pump Court, near by. Before Clement's Inn was transformed into blocks of ugly "flats," there used to be in the garden there a very handsome dial in the form of a kneeling black boy supporting the dial on his back and shoulders. The boy was of black marble or lead, I am uncertain which now, and was credited with having been brought from the East Indies.



Hardy Fruit Garden.

STRAWBERRIES.—The copious rains, succeeded by warmth, have had a good effect in moistening the soil to a good depth and rendering an abundance of soluble food available for the roots. This will be seen in the increased vigour of the flower stems and individual blooms. With plenty of light and heat there should follow a good set of bloom, and eventually a liberal crop of fine fruit. The latter may be ensured by thinning out the weakly specimens, and during the actual swelling of the fruit affording more or less copious supplies of liquid manure. The moist condition of the soil ensures that the liquid food will be easily retained and appropriated. It must be borne in mind that only bearing plants will need special assistance, giving extra food to young or fruitless plants imparting undue luxuriance to them. Before the berries commence to colour a clean, dry mulching, consisting of fresh long or short straw, must be laid down to keep the fruit clean, unless the mulching previously applied is sufficient for the purpose. Even then, in the event of wet weather, it is desirable to raise choice bunches of fruit from the ground so that they may more quickly ripen and be better flavoured. Circular wire supports or forked sticks are good for this purpose. The fruit will also ripen very well on pieces of glass, slate, or tiles.

LAYERING STRAWBERRY RUNNERS.—To obtain well-rooted runners for early planting some of the most forward plantlets just emitting roots may be selected. The best for this purpose may be found on the outside rows, where there is not a dense mass of growth, always selecting those which issue from fruitful plants. Probably the best method of rooting them is to adopt the pot system. Fill small 3in pots with good soil and partly plunge them in the ground. Secure the runner on the surface with a hooked peg or stone, and frequently water until the pots are becoming filled with roots, when the runner wire may be detached and the pots removed to a hard base, where they may remain for the final planting.

THINNING FRUIT.—The main objects sought in reducing the number of fruits on a tree is to increase the size and improve the quality. Another important point is the relief given to the trees, for it follows that if all the energies of the trees have to be expended on the perfecting of the crop of fruit a check will be given to the wood growth and the building up of the essential fruit buds for the succeeding season. It therefore follows that if wall and restricted fruit trees generally are to be kept in a continuous bearing condition they must not be overcropped. Great assistance is rendered by feeding, but limiting the crop in the first place is very essential. The trees themselves effect a preliminary thinning by casting off a quantity of improperly fertilised small and defective fruit in the early stages. The cultivator steps in afterwards and thins out the clusters, leaving, if he wishes for large and fine fruit, one only to each spur. In well-supported and vigorous trees concentration of energy brings out the special characteristics of the varieties, and adds greatly to their value and interest. Plums may remain in reasonable clusters, but Apples, Pears, Peaches, and Nectarines are better growing singly. The largest and heaviest Gooseberries are produced on trees when the fruits are limited in number. Currants, though not usually systematically thinned, may yet have some of the weakest bunches clipped out with advantage, especially if required for exhibition.

SYRINGING AND WATERING WALL TREES.—In conjunction with the due laying in and regulation of growth the full maintenance of vigour and health demands a considerable amount of labour in syringing and watering. The judicious use of the syringe or garden engine during the period when the fruit is swelling contributes to the suppression of insects, or destroys them if present. The sooner colonies of blue or black aphids can be extirpated the better, employing insecticides for the purpose where clear water is not sufficient to destroy them. Every effort must be made to prevent red spider gaining a foothold on the foliage. The frequent syringing will effect this almost better than anything, though if root dryness is permitted there is a weakness apparent which almost certainly induces a condition favourable to the spread of red spider. Active roots and healthy foliage will repel insects.

ASSISTING FRUIT TREES.—The condition of the trees must be a guide as to any extra help to be afforded them in the matter of fertilisers. It is seldom that all the essential elements of plant food are present in the soil in sufficient quantity for the requirements of fruit trees. If the foliage is of

poor texture and colour nitrogen is lacking, and should be applied in safe applications of nitrate of soda or sulphate of ammonia. Potash and phosphoric acid are necessary if the fruit fails to swell satisfactorily, while lime is essential to aid in the strengthening of the wood. Superphosphate and basic slag are suitable applications for affording phosphoric acid. Liquid manure also contains all the elements of plant food, and may be freely applied to any trees requiring assistance providing the soil is moist.—EAST KENT.

Fruit Forcing.

VINES: EARLY HOUSES.—The Vines from which the Grapes have been cut must be well syringed every evening until thoroughly freed from red spider, and afterwards occasionally to preserve the old foliage as long as possible in a healthy condition, for when the leaves die early from insect attacks or other causes, second growth not unfrequently sets in when the Vines ought to be going to rest. Admit air to the fullest extent possible, and maintain a moderate degree of moisture on the border, particularly at the surface, so as to keep there, instead of allowing it to become dry, and so causing them to descend in quest of moisture. A moderate extension of the laterals will not do any harm; but irregularities of growth, and particularly gross ones, should be checked by pinching or be entirely removed.

GRAPES RIPENING.—A fair amount of atmospheric moisture should be maintained, both for the benefit of the foliage and the swelling of the fruit, which enlarges considerably during the ripening process. Give the inside borders and outside, if the weather be dry, a good soaking of tepid water or liquid manure, and mulch at once with some rather dry, but short, sweet litter about 2in thick. This will mostly be sufficient for perfecting the Grapes, but the Vines must not suffer from drought at the roots, or the berries will be liable, especially Muscats, to shrivel. Directly they begin to colour afford abundance of air, a little fire heat being essential to their higher perfection, especially in flavour, insuring a circulation of warm air; but allow the temperature to fall to 65deg at night, otherwise securing by artificial means a temperature of 70deg to 75deg and 80deg to 85deg through the day for Black Hamburgh and similar varieties. Muscats should have a night temperature of 65deg to 70deg, 80deg to 85deg by day up to 90deg, or 95deg from sun heat.

GRAPES STONING.—The weather recently has been favourable for scorching and scalding. The best means of preventing both is a rather high night temperature, early and free ventilation by day with a little at night, and a gentle warmth in the hot-water pipes. It is not advisable to close early at this critical period—the close of the stoning process—but do so carefully, and, as the liability to scalding does not extend over more than a fortnight to three weeks, particular attention should be given to ventilation. If very bright weather succeeds a dull moist period, a slight shade over the roof lights is very beneficial. A double thickness of herring nets will afford all the shade required, and it is necessary where the panes of glass are large, especially for Muscats just completing the stoning process.

LATE HOUSES: THINNING.—In order to secure large and highly finished berries thin them well, especially in the interior of the bunches, leaving the large-berried varieties about an inch apart. Only such varieties as Gros Colman, and with the Vines in the best condition, will bear this severe thinning; therefore regard must be had to the variety, its likely ultimate size, and other circumstances, being guided by experience. The oval-berried varieties do not require so much room as the round ones; but all should be so thinned that they will have space for swelling fully without wedging, and yet be so close that when cut the bunch will retain its form. Loose bunches that show the footstalks are not so pleasing in appearance as more compact bunches, however fine the berries may be. Not only is it necessary to thin the berries, but the bunches must be reduced to the number which their size and the condition of the Vines satisfy the grower will finish satisfactorily. If an error is made let it be on the safe side, as Vines that are overburdened never finish their fruit well, and it is inferior in keeping qualities.

FIRING AND VENTILATING.—It is a common, but one of the greatest mistakes, to rely on solar heat alone for forwarding late Grapes. Cold nights render fires necessary, hence it is folly to let them out now and have to fire hard later on, when the sun has less power to ripen the fruit. All late Grapes thrive best in a high temperature with abundant food at the roots and a genial condition of the atmosphere. Maintain a night temperature of 65deg, and 70deg to 75deg by day in dull weather. Admit air early, a little at the top of the house constantly, increasing the ventilation with the temperature, allowing an advance to 85deg or 90deg, at which keep through the day from sun heat, reducing the ventilation with the declining sun. Close at 85deg, damping the paths then and again before nightfall. It is well to close for a short time and

afterwards admit a little air, which will prevent a vitiated atmosphere and allow the foliage to dry in the morning by the time the sun acts powerfully. Avoid cold draughts or sudden depressions of temperature, as they cause rust and cripple the foliage.

FEEDING.—Vines in well-drained borders will take almost any amount of water and nourishment to advantage when swelling their crops, always provided the soil is not made sodden and sour by needless applications, when indifferent health and shanking, with bad colouring, usually results. The draining of stables and cowhouses, diluted with about five parts water when neat, are excellent, adding about an ounce of superphosphate of lime to each gallon of diluted liquid, and applying this after the border has otherwise been made properly moist. A good soaking after the berries are thinned, and again when the stoning is completed, will help the Vines wonderfully in their present crop and for the succeeding one. As a top-dressing two parts phosphate of potash and one part nitrate of ammonia mixed may be used between times or alternating with the liquid manure from tanks, applying 2oz to 4oz per square yard and watering moderately. If applied in liquid form, 1oz of the mixture may be added to each gallon of water. As these substances are expensive, a mixture of two parts superphosphate and one nitrate of potash may be used instead and at similar rate, either as top-dressing or as liquid. The chief thing is not to over-water the border and yet maintain due moisture thereon.—ST. ALBANS.

Nature Notes.

The nightingale has not yet discontinued its song, nor has the cuckoo changed its note. Some of the early Cherries have commenced to colour.—H. R., Kent.

June 21.

Incident with a Cuckoo's Egg.

My old friend, Mr. James Hiam, of Astwood Bank, Redditch, a noted West Midland naturalist, as well as an erstwhile contributor to the pages of the *Journal of Horticulture*, recently related to me his own experience with a cuckoo's egg, and which so far is remarkable, that it occurred to me the tale might prove interesting to readers of the *Journal*, or at least to those of "Nature's Notes." Some time in the month of April the ardent veteran naturalist placed an old tea-kettle in a hedge bounding his garden, when a pair of robins commenced to build in it, but from some unknown reason deserted it before they had finished, and recourse was had to another rendezvous close at hand, in the shape of an empty Tomato tin, purposely placed in the same or an adjoining hedge, followed by the usual complement of eggs. It occurred to Mr. Hiam to introduce a cuckoo's egg, which he had picked up near at hand on the grass plot about a fortnight previously, and laid it on the soil of a flower pot in his cottage window, and resulting in the hatching of the egg simultaneously with its fellow eggs during a day at the end of last week. And now Mr. Hiam is watching for a further event, viz., the ejection of the young robins by their foster baby.

Regarding the finding of the egg on the grass, Mr. Hiam opines that, failing to find a convenient nest, the cuckoo was compelled to lay it somewhere, and trust to chance for the eventual hatching of her egg. I may add that a prolonged personal confab with my congenial naturalist friend—the Thomas Edward (the Scottish naturalist) of the Midlands—revealed sundry other interesting anecdotes of his experience amongst, not only feathered bipeds, but quadrupeds, and insects belonging to our native fauna, including also fruits.—W. G., June 21.

Publications Received.

Reading College Agricultural Department, Eighth Annual Report on field and other trials, 1901. * * "Clouds, and Weather Signs," by Commander D. Wilson-Barker, R.N.R., &c. Illustrated. London: "Knowledge" Office, 326, High Holborn, W.C. * * "The Journal of the Department of Agriculture of Western Australia, April, 1902," Part 4, Vol. I. Some of the contents are: Field Experiments at Dookie, with Thick and Thin Sowing of Grain; Heifers, the Best Breeding Age; Co-operation and Viticulture; Diseases in the Orchard; The Beet Sugar Industry in the United States, &c., &c. * * "Injurious and Useful Insects," by L. C. Miall, F.R.S. Geo. Bell and Sons, London, 3s. 6d. * * "Men of the Moment: 3. Lord Salisbury" (Trehern's Penny Series). * * "Annual Report of the Botanic Garden Syndicate, Cambridge." * * "El Jardin, Revista de Horticultura." First year, first number. Madrid, June 1. * * "Le Moniteur d'Horticulture," containing a coloured plate of *Miltonia spectabilis*, M. s. *Moreliana*, and M. s. *virginalis*. * * "Meehans' Monthly," June, 1902. Contains a coloured plate of *Rhamnus carolinianus*.



* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

GRAFTING AND BUDDING ON THORNS (F.).—Besides the Medlar and Quince, the Pear will succeed, but we do not know of any other fruit.

HIPPEASTRUMS (H. J.).—Messrs. J. Veitch and Sons, Limited, the Royal Exotic Nurseries, Chelsea, make a speciality of these plants, more so than any other firm we can name.

THICK-NECKED ONIONS (T. H. W.).—There are various causes contributing to this deformity—one being spurious seed; another a wet, cold, or late situation; and another the insects, only the latter evil results in a sort of bladder-like formation rather than a thick neck. In general, if good seed be obtained and sown sufficiently early on dry ground, and the season becomes moderately dry and fine, Onions of proper size and shape will be formed, either larger or smaller as the character of the ground and their cultivation is attended to. But if the situation is damp their growth is prolonged too late in the season, and a number of thick-necked only half-ripened bulbs will be the result. In such places a good dressing of charecoal dust at the time of sowing will be beneficial, in addition to thorough drainage and as much road sand as can be had, or anything that will tend to make the ground drier and more porous.

CULTIVATING CARNATIONS (A. L. R.).—Carnations may be grown well in prepared beds or borders, an open but sheltered position being chosen, and the ground ridged up in the autumn for exposure to the sweetening influence of wintry weather, and the extermination of insects. At the same time a dressing of soot and lime, mixed, may with advantage be well incorporated with the soil for the destruction of these pests, especially wireworm, which is a very troublesome insect in Carnation culture. An addition of leaf soil and sharp sand should also be made if the soil is stiff or clayey. The plants should be put out in March, about 1ft apart each way; more space may be allowed between the lines if desirable, according to the size or shape of the bed. Keep the beds clean, and when dry thoroughly watered. As the buds expand, occasional doses of liquid manure will be found beneficial. It will also be necessary to thin the buds if large blooms are required. The blossom stalks require staking in order to display the flowers, and to keep them from being soiled. Carnations are also grown in pots, for which you will find excellent instructions in "Hardy Florists' Flowers," by James Douglas, who would probably be able to supply you with a copy, as he still is a great grower, and, if not, give particulars of one affording the most practical information on Carnation cultivation. His address is Edenside, Great Bookham, Surrey.

TOMATO ROOT AND STEM DISEASED (Puzzled).—The root, as you say, was badly clubbed, being affected in the root-stem and roots near it with root-knot eelworm (*Heterodera radicola*), whilst the long wiry roots were quite clean and healthy, quite free from knots or excrescences, also brownness, as occurs in cases of attack from sleeping disease, *Fusarium lycopersici*. The stem at its junction with the soil was clear of the perforations in the woody tissues, and also of the brownness that appeared higher up in the stem. Just above the collar there was a deep crack in the stem, and from this point upwards the stem was perforated, or tunnelled, vertically, and the adjacent tissue browned. This part of the stem appears to have been burrowed into by some insect, probably the Potato-stalk weevil, *Trichobaris trinotata*, with which the "worm" found in the soil accords, and is the first instance that has come under our observation in the matter of the Tomato plant, as also is the affection of the stem by sleeping disease started at the collar and not from the root. There is no remedy for such plant but to pull it up and burn it as soon as possible, including the root portion. Beyond dressing the soil with 2lb of basic slag phosphate and 12oz of kainit per square yard, digging in a spit deep, and after remaining a month or six weeks turning over so as to mix well. This was first recorded in the "Journal of Horticulture" by Mr. W. Dyke as preventive of eelworm attack and useful against sleeping disease. The only remedy for the grubs at present known is to plant as soon as they are found wilting and burn them.

BLUE CORNFLOWER (H. J.).—A somewhat shaded border where moisture is not lacking, and a good loamy soil exists, will be found best for the culture of these plants, and from which you will get the deepest coloured flowers.

INSECT TO NAME (J. T.).—The insect is the well-known wasp beetle, *Clytus arietes*, and belongs to the longicornes. The colour is black, variegated with yellow. The beetle is common, and may be found crawling on hedges or in gardens, where it is often taken for a wasp, on account of its colouring. The larva or grub is to be found in dead wood, such, for example, as old decaying posts and stumps of dead trees, your specimens being from the dead and dried wood of an Apple tree, which, as you say, has been honeycombed by the insect.

FRUIT TREES BLOSSOMING ONLY AT THE SHOOT ENDS (T. H. W.).—In general all our hardy fruits, as Apples, Pears, and Plums, produce most fruit near their extremities, the spurs bearing the fruit blossoms being most abundant on the wood that is two, three, or four years old, the older portion of the tree becoming less fruitful, although not entirely so if pruning be attended to. In all cases the wood of greater age than that alluded to bears more sparingly than that which is younger. Training young shoots from the centre of the tree, if it is against a wall, will in a measure restore fruitfulness in places where wanted, but it is not so successful with open standards; nevertheless, much may be done by pruning, still in most cases the greatest quantity of fruit and that which is best is produced near the extremities, and we see no objection to this in the case of the kinds of fruit alluded to. Good management ought to insure an even crop of Peaches all over the tree, and the same may be said to be the case with Morello Cherries, Gooseberries, and Currants. Much, of course, depends on the health and vigour of the tree, the character of the season, and other features.

NAMES OF PLANTS.—Correspondents whose queries are unanswered in the present issue are respectfully requested to consult the following number. (Zoe).—1, *Rhododendron ferrugineum* var. *myrtifolium*; 2, *Collutea arborescens*; 3, *Cornus mas variegata*; 4, *Veronica* sp.; 5, *Robinia hispida*. (Bot.).—1, *Pernettya mucronata*; 2, *Rhododendron cinnabarinum*; 3, *Erica cinerea alba minor*; 4, *E. c. purpurea*; 5, *Kalmia angustifolia rubra*; 6, *Cotoneaster frigida*. (J. B.).—1, *Magnolia tripetala*; 2, *Buddleia globosa*; 3, *Cornus mas variegata*; 4, *Tamarix tetrandra*; 5, *Begonia Lafayette*. (F. S.).—1, *Iris sibirica*; 2, *Thunia (Phaius) alba*; 3, *Rosa rubrifolia*.

Note to Readers.—We request those of our readers who may experience any difficulty in obtaining copies of this Journal regularly to be good enough to acquaint us with the fact.



A Pot-pourri of Facts and Fancies.

A well-known agricultural paper has a column headed "Fruits of Observation," and it struck us never had we seen a happier heading. It was a happy thought, quite equal to anything ever suggested by F. C. Burnand. We never poach, so we dare not adopt that title for any of our little efforts; but in the Journal of June 12 we read directions as to the making of Pot-pourri, and that recalled to our memory a brisk supper party of long ago, where a facetious bachelor treated us to a delicious dish of what he called Pot-pourri, and which proved to be a mixture of partridges, mutton chops, sweetbreads, and other delights. Sometimes a mixture of topics is preferable to one dull article; it makes a bit lighter reading.

We hark back again to June 12. Note what Mr. H. H. Raschen says about turning "the decaying gentleman farmer" into a fruit-grower or nurseryman. Now, this would be a good solution of the difficulty if it could only be managed. We know there are many farmers who are also keen gardeners so far as their knowledge goes; but they would practically have the business to learn, and while they were learning it and gaining experience in marketing there could not be anything very great in the way of profit. Also to be successful fruit-growers there must be fixity of tenure, or, better still, the fruit land must be their own. We know of a case at present where the difficulty of getting land is in-

superable. In the first case it is a question as to whether a landlord would permit certain plots or fields to be diverted from their original course of husbandry, and he certainly would never consent to the purchase of a suitable portion. Our experience of landlords is this: They take a map of their parish, and look carefully at those portions marked as theirs, and nothing annoys them more than to see a little farm, or even field, of another's spoiling the symmetry of the estate. Naboth's vineyards indeed they are, and it does not matter how pinched the large proprietor may be, he never rests till he can fairly say he has squared his property.

Now, how on earth is an outsider to get a look in? Constantly do we receive pamphlets setting forth in glowing terms the charms of lands that can be bought outright for £15 per acre. It may be that we are stupid and old-fashioned, but, if the land be so good, why does it go a-begging? At the present time farmers are not over-blessed with capital, and, bringing our gardening knowledge to bear, we fancy fruit farming, unless in quite a small way, will devour a good bit of capital. By all means get hold of the rising generation of farmers and instruct them; but you will not be turning out farmers, but market gardeners.

And just a word or two on this remount business. We are all wise after the event, and there has been a good deal of light let on to the system that at present obtains respecting the horses for our soldiers. More money has been wasted than we like to think about, and it is so galling to know it has gone out of this country never to return. "Give peace in our day" may well be our petition, and at present we hope the Spirit of Peace has taken up her abode with us. But there is no telling what may be in the near future. We may want horses as badly in the next decade as we have done during the last. £40 for a five-year-old is not good enough to tempt farmers to become breeders. If anyone doubts the risks of horse-breeding, just let him watch for a year or two some man who owns a biggish stud. We don't say let him try for himself; that would be too cruel, for where the expert fails in part the novice would make total shipwreck. Three prize mares in foal in this parish; three fine foals, apparently all well. This was a fortnight ago. Foals all gone from various quite unforeseen ills, and the best mare found dead in the pasture to-day.

This is no isolated instance. Suppose the foals get over the critical time, will £40 be an adequate return for five years' keep? For the benefit of those who know little of horse lore we would observe that no horse is fit for the hard life of a trooper till it is five years old. A man's horse is often his salvation in active warfare, therefore it must be something on which he can depend. We see Sir W. Gilbey advocates a plan by which the Government should buy up all suitable horses at three years old, and grow them on themselves. This would give an impetus to horse-breeding. It would be required to establish at least ten depôts for these young horses, and Sir Walter goes into the question of expense, &c., very minutely. Of course, there is another way. The hunter and hackney-breeding farmer will often find that all their young stock will not come up quite to the intended mark, misfits in fact; but if these "misfits" are sound they will make good remounts for the trooper. Still, on the horse question, we would again refer to the wisdom of insuring in-foal mares, foals, and valuable animals. A cheque is a wonderful consoler in case of a funeral, even if it only represents part of the value. Our American friends seem anxious to "squell" up the makers of margarine. There is a heavy annual tax, and those who adulterate butter without having paid the tax can be fined not less than 1,000 and up to 6,000 dollars. Mr. Hanbury will have to turn his attention to this.

The show fever is very prevalent again, and we are often puzzled as to how some of these good folks we know afford time and money for attending so many. True, we should condemn the "stay-at-homes," but this love of shows in some breasts is decidedly excessive. If you have got good stock show by all means. It is a capital advertisement, but don't overdo the thing. A master is badly spared from home during the summer months.

We saw the other day a forcible example of the danger of overstaying the market. The big clips of several years' wool had been stored away as a sort of speculation in hope of a rise in price. Whatever anyone says to the contrary, wool does deteriorate by keeping, and that in no small measure; and this time the deterioration in price has been even worse.

We have had another volume treating of Victorian agriculture, and we are struck with the exceedingly practical

nature of some of the articles. We hear a good deal of "spraying" fruit trees, and so forth, to rid the trees of injurious parasites. The lecturer first advises the study of the particular parasite. Some varieties must be poisoned through the stomach, some by suffocation. These are points well worth noting, or your labour may be in vain. Then there is the senseless raid upon birds. It is well to distinguish between friend and foe here. We have a fancy it is the so-called "sporting" tastes that lead to so great an elimination of birds both here and in the Antipodes.

We have often thought it a pity that gun licences were not a bit dearer. (The Chancellor of the Exchequer might make a note of this.) Yes, and to the great benefit of the country the tax on dogs might be raised. There has been a good deal of sheep worrying this spring, and it is most difficult to get at the offender.

This is not a sporting paper, but we might just be allowed a word on the nuisance of little yapping dogs that do so much to disturb Mrs. Partridge, who, in many a hedge bottom, is busily engaged with family cares. There will be no birds for September if there are forsaken eggs or tiny chicks mutilated or killed. All this rain will do something to flush pastures, and with flushed pastures should come an ample supply of butter. Why not preserve some against the days of famine—not for the market, but for home consumption?—although if the butter be well potted we have no doubt it would be in demand for the production of Christmas dainties.

Partridges led us to think of the butter question. It is extravagant, but it is good. Try a butter-basted bird, if the kitchen powers will allow. Some of us are beginning to worry about our hay crop. We prophesy there is warm weather in store yet, and, with all this rain, we stand a chance of having a bit more to mow at than we have had the last few years. We are quite aware that grass may easily be left too long—i.e., to become tough and fibrous—but as the growing start was made late this year the ripening won't be quite so soon. What about heavy Corn crops and the self-binder? Those machines work well where the crops were light and stand upright. We fancy may be a question of more men this time and less machinery. By-the-by, all careful folk will have their machines (grass-cutters and reapers) overhauled in good time. When machinists are pressed for time work may be slipped.

Work on the Home Farm.

We have had a great deal more rain, which most farmers have agreed in thinking very superfluous. It has certainly put a serious stop to Turnip drilling, which must be delayed until very late in this month, if not until July. Weeds have somewhat upset our equanimity by growing so fast, but it is cheering to see the prosperous state of all crops. The outcry about laid Barley is gaining in volume, but we have never to wait long for a farmer's growl. Some may suffer, but when their crops are too heavy it denotes that the general average will be a good one. Poor and thin soils have suffered terribly through the dry season, and they are now getting a much-needed turn of luck.

We are all beginning to think of cutting Clover, which is not too well in flower, but the Rye Grass, which is an important proportion of the crop this year is setting its seed. This last is valuable if retained, but it shakes out very much in making if the grass is allowed to get too ripe. Then the Coronation is before us with practically two full days' holiday, and the weather is unsettled. Here is a pretty puzzle! Well, we will wait the Coronation over and then start the mower.

Our local machinist showed us the other day the newest type of mower—American, of course. But, oh, how simple in construction! How light but strong! This machinist has manufactured hundreds of mowers in his time, but is giving it up. He can get more profit by selling these foreigners than by making his own. No wonder that we are losing our iron and steel trade.

Earthing up Potatoes was progressing well before the heavy rain. The work must be done soon or it will be very difficult. The haulm seems to grow inches in a day. We do not like to earth Potatoes with saturated soil, but needs must in this case. There is too much comfort. The sun will not bake the earthed ridges; there is too much top for that.

Sheep pastures are very rank in growth. All food is very succulent and young. Lambs may be in danger of scour if it is not guarded against. A little linseed cake or good mixed lamb food will well repay its cost in keeping the animals healthy. A pen may be made with hurdles to surround the troughs and openings left which will not admit the ewes. If one is narrow enough to find her way in, the food will not be wasted on her. Ewes have improved marvellously since they were clipped, and now look very well.

